EXHIBIT F

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
EASTERN DIVISION
No. 4:23-CV-00193-D

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                                    )
RODNEY D. PIERCE AND                )
MOSES MATTHEWS,                     )
                                    )
        PLAINTIFFS,                 )
                                    )
v.                                  )
                                    )
THE NORTH CAROLINA STATE BOARD      )
OF ELECTIONS, ET AL.,               )
                                    )
        DEFENDANTS.                 )
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DEPOSITION OF BLAKE ESSELSTYN
(TAKEN by DEFENDANTS)
ATTENDING VIA ZOOM IN MAASTRICHT, NETHERLANDS
SEPTEMBER 17, 2024

REPORTED BY: Meredith R. Schramek
                  Registered Professional Reporter
                  Notary Public
                  (via Zoom in Mecklenburg County)

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Deposition of Blake Esselstyn, taken by the defendants via Zoom on the 17th day of September, 2024, at 9:02 a.m., before Meredith R. Schramek, RPR, Notary Public.

C O N T E N T S

The Witness: BLAKE ESSELSTYN

I N D E X of the E X H I B I T S

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A P P E A R A N C E S

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1 (Pages 1 to 4)

PROCEEDINGS

BLAKE ESSELSTYN,

having been duly sworn,

was examined and testified as follows:

EXAMINATION BY COUNSEL FOR DEFENDANTS

BY MS. RIGGINS:

Q. Good morning, Mr. Esselstyn. Did I say that correctly?

A. It's Esselstyn.

Q. Esselstyn. I was close-ish. My name is Alyssa Riggins. I'm with the law firm Nelson Mullins. We represent the legislative defendants in this matter, which is Pierce, et al., versus the North Carolina State Board, et al., that's pending in the Eastern District of North Carolina.

I appreciate you making yourself available your afternoon for me to ask you a few questions.

So, Mr. Esselstyn, can you please state your full name for the record.

A. My first name is Blakeman. Middle name is Bingham. Last name is Esselstyn.

Q. And what is your current address today?

A. The address is Gaffellaan, which is G-a-f-f-e-l-l-a-a-n, 11 in Maastricht, which is M-a-a-s-t-r-i-c-h-t, postal code 6225KK in the

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Netherlands.

Q. Mr. Esselstyn, what's your permanent U.S. address, if you have one?

A. Yes. 49 North Street. That's in Asheville, North Carolina 28801.

Q. Mr. Esselstyn, have you ever been deposed before?

A. I have.

Q. Okay. When was the last time you were deposed?

A. 2023, I believe.

Q. So fairly recently?

A. Yes.

Q. Was that by Zoom, or was it in person?

A. It was by Zoom.

Q. Perfect. So you're a veteran.

So I will just say in Zoom depositions, it's really important that we try not to talk over each other. Oftentimes you're going to know where I'm headed and you want to help me out.

I appreciate that, but can you please try to let me get my full question out before you give a response?

A. Yes.

Q. And I know we're trying to get this done

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before it gets too late your time, but this isn't an endurance test. If you need a break at any point, please let me know. I'm happy to take one, but can you please answer my question pending before we take a break?

A. Yes.

Q. Okay. Mr. Esselstyn, is there anything that would prevent you from answering my questions truthfully or honestly today?

A. No.

Q. So, Mr. Esselstyn, were you retained by plaintiffs in this case as an expert?

A. By plaintiffs' counsel, I believe, yes.

Q. Which member of plaintiffs' counsel specifically retained you?

A. This may be a legal distinction. My first conversation was with Elisabeth Theodore, who's on this call or in this present -- present at this virtual meeting, but I believe the letter of engagement was with another partner, Stanton Jones.

Q. Okay. And as we're going through our questions today, I may ask something and in your mind, it might say, oh, I have this. I know this because of Ms. Theodore or Mr. Jones or maybe an attorney at Poyner Spruill.

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I do not want to know about conversations you had with any of the attorneys at Arnold and Porter or Poyner Spruill. So will you please let me know if you think a question that I've asked calls for something that is privileged in your response?

A. I will.

Q. Sure. All right. Mr. Esselstyn, do you recall when you were first retained in this matter as an expert?

A. I think so, roughly.

Q. And when was that?

A. Fall of last year.

Q. So that would be the fall of 2023?

A. Correct.

Q. Do you have an understanding as to which North Carolina senate districts are being challenged in this case?

A. Perhaps a partial understanding.

Q. What is your partial understanding?

A. I am -- this may just be a legal distinction. I expect -- my understanding is that Senate District 2 is being challenged.

I don't know if the complaint or the challenge specifically mentions neighboring districts, but I could imagine that because an alteration of

8

Senate District 2 would affect neighboring districts
and the configuration involves multiple districts, that
it may assert that other districts aren't suitable as
they are as well.

Q. Is it your understanding that the state
senate map is challenged statewide, all districts are
challenged in this case?

MS. THEODORE: Objection. I think this calls
for a legal conclusion about the nature of our
complaint.

MS. RIGGINS: Well, Elisabeth, I'm asking
what he understands as a layperson and an expert to be
the nature of the complaint.

It's like if he thinks that his home county
of Asheville is challenged, that's a little bit
different. So I'm testing his understanding of what --
it also goes to what he was asked to do.

So are you instructing him not to answer?

MS. THEODORE: I guess I'll let him answer.
I would just say that, you know, I think it would be
more appropriate to ask him about what he was
instructed to do as opposed to his understanding about
the complaint. But I'll let him answer that -- that
particular question.

THE WITNESS: If you could repeat the

9

question, Ms. Riggins.

BY MS. RIGGINS:

Q. Mr. Esselstyn, do you understand plaintiffs
to challenge the entire North Carolina State Senate
Plan or only a region of the state?

A. My understanding is that it is not the entire
plan that's being challenged.

Q. So, Mr. Esselstyn, what were you asked to
provide an expert opinion on in this case?

A. Just to clarify the question, are you looking
for what I was initially asked to provide an opinion
about, or through the entirety of my retention by the
plaintiffs' counsel?

Q. The entirety of your retention.

A. Okay. I was asked to provide an opinion
about the feasibility of creating a senate district in
northeastern North Carolina that met certain
characteristics. I think maybe a shorthand would be
Gingles 1.

And that -- I'm just taking my time to think.
The preliminary injunction phase seems like a long time
ago. But, yes, primarily it was providing an expert
opinion on the feasibility of creating Gingles 1
districts in northeastern North Carolina.

More recently, it has also been to provide an

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opinion about the expert report provided by Dr. -- I
apologize if I'm mispronouncing his last name. I
believe it's Dr. Trende.

I'm just reviewing to think if there's
anything else. I'm going to -- I have hard copies of
my initial expert report and rebuttal report in front
of me, and I know in both of those I sort of -- I
outlined at the beginning of the report what I was
asked to do. So I just want to make sure --

Q. And so, Mr. Esselstyn, I have not shown you
those exhibits, and I'd ask that you put them away for
now.

A. Okay.

MS. RIGGINS: Do you have any objection to
that, Elisabeth?

MS. THEODORE: No. That's fine.

BY MS. RIGGINS:

Q. And we'll get to those, and I think it's
great you have a hard copy. I just -- you know,
sometimes you end up forgetting to put something in the
report, so I'm just kind of asking.

A. Okay. I see.

So let me -- without reference to that, I
just want to think about whether there were other --
anything else that I was asked to provide an opinion on

11

other than, as I said, basically Gingles 1 districts
and reviewing Dr. Trende's report.

I think at a high level, that covers it.

Q. All right. And I believe in response to my
previous question, you indicated that you were asked to
draw districts that met certain characteristics. Does
that sound right to you?

A. I think so.

Q. What did you mean when you said "met certain
characteristics"?

A. So conforming to traditional redistricting
criteria. So the districts need to be within the
permissible population deviation, for example. They
should be compact districts. They should endeavor to
keep political subdivisions whole to the extent
possible. They should also consider precincts, for
example.

There are a number of traditional
redistricting criteria that I mention -- I itemize in
my first -- and when I say my first report, I'm
referring to the report from May of this year, not the
preliminary injunction report.

So I know I itemize criteria that were
identified by the general assembly as guidelines, and
then in addition, one of the characteristics would be

12

3 (Pages 9 to 12)

1 that the districts be majority black voting age
2 population and/or majority black citizen voting age
3 population.
4   And when I say -- some of the districts that
5 I drew were adjacent districts or accompanying
6 districts to the demonstration districts that would
7 have had -- for example, in Demonstration District A,
8 some of the districts that are in Demonstration Map A
9 do not have majority black voting age populations.
10   Q. Okay. And when you say "majority black," do
11 you mean greater than 50 percent?
12   A. Yes.
13   Q. Sorry. We just have to make sure the
14 record's clear. Sometimes people have different
15 definitions. I know that sounds like a dumb question.
16   So you brought up something a minute ago,
17 Mr. Esselstyn. You drew a total of five demonstration
18 districts across your May and August reports; is that
19 right?
20   A. Depending on how you define "demonstration
21 districts."
22   Q. So that's what I'm trying to get at.
23   So you drew what I would call primary
24 Demonstration Districts A, B, C, D, and E, and then
25 other districts around those majority black districts;

13

1 is that right?
2   A. Correct, yes.
3   Q. Can I call them, Demonstrative Districts A,
4 B, C, D, and E, "primary demonstration districts" and
5 you know what I mean?
6   A. Yes.
7   Q. And so, Mr. Esselstyn, I know you said you
8 had a copy of your May and August report in front of
9 you. Do you have anything else in front of you?
10   A. I have Dr. Trende's report as well.
11   Q. Okay. Do you have --
12   A. And I have a pair of eyeglasses and a water
13 glass and some pens on my desk, but no other documents.
14   Q. Okay. And do you have anything other than
15 the Zoom deposition up on your computer screen?
16   A. I do not.
17   Q. Okay. So I think it's great that you have
18 those printed copies. I have a lot of paper in front
19 of me, as you can see.
20   I would just ask that -- I will be
21 transmitting exhibits through the chat for the record.
22 Some of them you may have in front of you. If you want
23 to use your paper copy, that's fine. I'd just ask that
24 you, you know, not look ahead.
25   Is that fair?

14

1   A. Yes.
2   Q. Okay. Mr. Esselstyn, do you know what fields
3 you're being offered as an expert in?
4   A. I can't remember seeing that specified.
5   Q. Sure. Do you consider yourself to be an
6 expert in political science?
7   A. I don't think I have described myself as an
8 expert in political science before.
9   Q. Do you consider yourself an expert in
10 political science now?
11   A. I think this is the first time I've been
12 asked that question. So maybe certain aspects of
13 political science.
14   Q. Okay. What aspects would those be?
15   A. Electoral redistricting.
16   Q. Anything else?
17   A. And demographics of elections, North Carolina
18 elections, redistricting in the -- I mean, I guess this
19 is -- that would be a subcategory of redistricting --
20 local government, North Carolina municipal annexation,
21 which is arguably part of political science.
22   I've taught a graduate-level course in the
23 public affairs department at Western Carolina
24 University. So, yes, I would say there are aspects of
25 political science that I do have expertise in.

15

1   Q. Do you hold any degrees in political science?
2   A. No.
3   Q. Have you ever drawn any statewide
4 redistricting maps for a state governing authority?
5   A. Just to clarify, the state governing
6 authority being the client?
7   Q. Yes.
8   A. I don't believe so, although I have drawn
9 statewide maps for a legal proceeding that I think were
10 contemplated as being used for legislative statewide
11 use or use as the legislative districts.
12   Q. And I believe you said you considered
13 yourself an expert in North Carolina elections. What
14 do you mean by that?
15   A. I have lived in North Carolina most of my
16 adult life, worked in local government for more than
17 10 years. I have worked as an election judge, chief
18 judge in Buncombe County elections, as well as an
19 assistant judge.
20   And since starting my consulting firm in
21 2015, a lot of my work has been related to
22 North Carolina elections. I have worked as a
23 consulting expert on cases related to North Carolina
24 elections.
25   Some -- I've coauthored articles that have

16

4 (Pages 13 to 16)

1 been used in issues related in North Carolina
2 elections. So -- and in a case in Georgia, I was
3 actually asked to provide expert testimony about
4 election administration in North Carolina.
5   Q. Other than serving as an election judge and
6 an assistant election judge in Buncombe County, what
7 experience do you have in election administration in
8 North Carolina?
9   A. I have been involved with -- I consider folks
10 at the Buncombe County Board of Elections to be -- one
11 of them is someone I worked with previously in my
12 capacity as the -- working in local government because
13 the department that I was in was responsible for
14 coordinating with the county board of elections about
15 updating maps with regard to jurisdictions and changing
16 of jurisdictions between elections, and through that
17 became familiar with kind of the structure of the
18 database that the North Carolina election boards use.
19   Q. Have you ever served on the North Carolina
20 State Board of Elections?
21   A. I have not.
22   Q. Have you ever served on the Buncombe County
23 Board of Elections?
24   A. I have not.
25   Q. Have you ever served on any other county

17

1 board of elections?
2   A. No.
3   Q. What election administration experience do
4 you have that is not serving as a county election
5 judge, an assistant county election judge, or related
6 to redistricting?
7   MS. THEODORE: Objection to form.
8 BY MS. RIGGINS:
9   Q. You can answer.
10   A. I'm thinking I sort of answered this question
11 before in talking about my experience working as the
12 GIS steward for geographic data that was relied upon by
13 the Buncombe County Board of Elections and working in
14 concert with the employees of that board to make sure
15 that they had the information that they needed in a
16 form that was useful to them.
17   So as a government employee who was
18 collaborating with staff for the board of elections, I
19 became familiar with a lot of the technical aspects.
20 And it's not exactly redistricting. It has more to do
21 with who gets to vote in municipal elections in
22 Buncombe County, for example.
23   Q. Sure. So what's your election administration
24 experience outside of Buncombe County?
25   A. I worked as a poll worker in King County,

18

1 Washington.
2   Q. Anything else?
3   A. I would say I have been a close observer of
4 redistricting in North Carolina and how new
5 redistricting plans are then able to be implemented by
6 boards of elections without -- you know, not in a paid
7 capacity, but that's something I've observed and
8 studied.
9   Q. Anything else?
10   A. And, again, your question was specifically
11 related to experience related to election
12 administration in North Carolina?
13   Q. Yes.
14   A. Just reading what other academics in
15 North Carolina write about the subject.
16   Q. Do you consider yourself to be an expert in
17 North Carolina communities of interest?
18   A. I think so.
19   Q. In what way?
20   A. So in 2021, I worked as part of a team called
21 the Local Redistricting Service where I as a
22 demographer and GIS expert collaborated with attorneys
23 to provide redistricting services across the state to
24 various levels of government that needed redistricting
25 after the census data came out.

19

1   And so our clients were as far west as
2 Catawba County and Iredell County, and really across to
3 eastern counties as well, Craven County. And so in
4 doing that work, driving thousands of miles and paying
5 site visits to all these locations and considering the
6 communities that were important communities of interest
7 that were important in these jurisdictions, I developed
8 a much deeper understanding on that topic.
9   And then I have also been an observer, a
10 student, and a -- well, a student in the sense of
11 somebody who studies the topic at the statewide level
12 of previous redistricting plans.
13   There -- as you're probably aware, there have
14 been quite a number of plans that have been overturned
15 and redrawn at the state level, legislative maps as
16 well as congressional maps, and also a proposal to
17 change a lot of the judicial district maps, which is
18 something I spent a lot of time looking at when that
19 was proposed.
20   And also just being a North Carolina native,
21 being someone who, as I said, has lived in
22 North Carolina for most of my adult life and being a
23 geography nerd, I pay a lot of attention to different
24 geographies and communities within the state.
25   Q. So you said you were a North Carolina native.

20

5 (Pages 17 to 20)

1   Where are you from?

2   A. Charlotte, Mecklenburg County.

3   Q. Nice.

4   Mr. Esselstyn, apart from the topics we've

5   already covered, do you consider yourself to be an

6   expert in any other fields?

7   MS. THEODORE: Objection to form.

8   THE WITNESS: I have been deemed to be an

9   expert in previous legal proceedings in geographic

10   information systems, in demographics, in municipal

11   redistricting -- I'm sorry -- municipal annexation as

12   well as municipal redistricting.

13   But you had said -- I think your question --

14   well, in addition to redistricting, if you didn't say

15   redistricting, I do consider myself to be an expert in

16   redistricting as well as demographics, geographic

17   information systems, municipal annexation in

18   North Carolina.

19   As I mentioned, in another legal

20   proceeding -- well, no, no. We've already covered

21   election stuff.

22   I have a professional certification as an

23   urban planner. I've held that for more than 10 years

24   and worked in the urban planning context. I have

25   presented at planning-related conferences. So I have

                                                        21

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1   fairly deep experience in urban planning or urban and

2   regional planning.

3   BY MS. RIGGINS:

4   Q. All right. And I believe you said you have

5   paper copies of your May report and your August report

6   with you; is that right?

7   A. That's right. I should say I do not have all

8   the attachments. I just printed out basically the body

9   of the report.

10   Q. Okay. Is it fair to say that the report you

11   did in November of 2023, that material is also included

12   in your May report?

13   A. I would say that most of it is. It's been

14   long enough that I've looked at the November report

15   to -- there may be something that I'm forgetting, but I

16   believe that most of -- yes, most of what's in the

17   November report would also be in the May report.

18   Q. Okay.

19   A. I'm sorry. I'm just going to step away from

20   my desk literally for five seconds to close the door to

21   my office. I'm just being distracted by some noise.

22   One moment.

23   Sorry about that.

24   (Exhibit 1 Marked for Identification.)

25

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1   BY MS. RIGGINS:

2   Q. And so, Mr. Esselstyn, was the May report,

3   was that submitted by you on May 31, 2024?

4   And you're free to look at it.

5   MS. RIGGINS: I'll ask Jordan to go ahead and

6   transfer it through the chat.

7   And Meredith, we'd like to mark this as

8   Exhibit 1 for the record when you do the transcript.

9   THE WITNESS: It's -- I actually didn't

10   include the signature page which would have that date,

11   so I will -- you said this will be showing up in the

12   chat?

13   BY MS. RIGGINS:

14   Q. Yes. It looks like it was just transmitted

15   and you can download it and open it.

16   A. Okay.

17   Q. The signature page is page 33 of the PDF, if

18   that's helpful.

19   A. Okay. Yes. That says May 31st. Indeed.

20   Q. All right. Were you aware, Mr. Esselstyn,

21   that you had until July 16, 2024, to update this

22   initial report?

23   A. I was not aware of that.

24   Q. So you didn't make a choice -- a willful

25   choice not to provide updates between May 31st and

                                                        23

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1   July 16th when the report was due?

2   A. No.

3   MS. THEODORE: Object to form.

4   THE WITNESS: No.

5   (Exhibit 2 Marked for Identification.)

6   BY MS. RIGGINS:

7   Q. And then you authored a rebuttal report in

8   this case -- which we can also transmit, please,

9   Jordan, through the chat and mark as Exhibit 2 --

10   that's dated August 30, 2024; is that right?

11   A. That's correct.

12   Q. In drafting either of these reports, did you

13   rely on any sources other than those identified in the

14   reports in the appendices?

15   A. I don't think so.

16   Q. So I'd like to spend the bulk of our time for

17   the next little bit with your May 2024 report.

18   In the PDF, Mr. Esselstyn, can you please

19   turn to page 34, which is Attachment A.

20   A. Yes. Just one moment. I'm just opening up

21   the August report as well.

22   So yes, I am at Attachment A.

23   Q. For the May report?

24   A. Correct.

25   Q. Okay. And this looks like a cover sheet, and

                                                        24

6 (Pages 21 to 24)

1 then your CV is behind it; is that right?
2   A. That's right.
3   Q. Okay. I'd like to ask you a couple questions
4 about your CV, if I may.
5   So under "Employment," the first bullet says
6 "Redistricting Consultant at Mapfigure Consulting (and
7 as Blake Esselstyn)"; is that right?
8   A. Yes.
9   Q. Okay. Is Mapfigure Consulting an LLC or a
10 corporation?
11   A. No. There is a Dutch business entity called
12 "Mapfigure BV," which was created in 2022 for the
13 purposes of doing business while living in the
14 Netherlands. But Mapfigure Consulting is a d/b/a for
15 the LLC mentioned in the next bullet.
16   Q. And is that FrontWater, LLC?
17   A. Correct.
18   Q. Other than redistricting work, what does
19 FrontWater, LLC, do, if anything?
20   A. Oh, yeah. GIS consulting and urban
21 planning-related consulting.
22   Q. Okay. And it looks like you're the principal
23 consultant of that LLC?
24   A. Correct.
25   Q. Are you the managing member of that LLC?

25

1   A. Yes.
2   Q. And do you employ anybody else through that
3 LLC?
4   A. No.
5   Q. And prior to forming that LLC in 2014, it
6 looks like you spent about a decade working for the
7 City of Asheville in various roles; is that right?
8   A. That's right.
9   Q. Can you tell me a little bit about what you
10 were doing as an urban planner II and III for the City
11 of Asheville.
12   A. Yes. The way I've often described it to
13 folks in the past is that I was the GIS person for the
14 planning department for the City of Asheville.
15   So, as the title suggests, there was also
16 work that I did that was related to -- or was similar
17 to work that other planners were doing, being involved
18 in development review, for example, or helping with
19 long-range planning, but I would say the -- and I also
20 co-coordinated the city's annexation program.
21   But a large part of my responsibilities were
22 essentially managing the GIS assets, the data related
23 to the planning department, meaning not only things
24 like zoning districts, but also the planning department
25 was tasked with maintaining the municipal boundary data

26

1 and things like the extraterritorial jurisdiction,
2 things like that.
3   Q. And at any time when you were an --
4   A. Sorry.
5   Q. Go ahead.
6   A. I neglected to mention that I was also the
7 department -- the City's liaison to the Census Bureau.
8   Q. It looks like you anticipated my next
9 question.
10   So did your work as an urban planner and GIS
11 specialist involve the use of census data?
12   A. Very much, yes.
13   Q. Were you responsible for any redistricting
14 while you were an urban planner for the City of
15 Asheville?
16   A. Define what you mean by "redistricting,"
17 please.
18   Q. Did you help the City draw any sort of
19 municipal districts for city council races or things
20 like that?
21   A. In other words, electoral districts?
22   Q. Yes.
23   A. Okay. Because drawing of administrative
24 districts was happening all the time. Election
25 districts, no.

27

1   Q. All right. So I'd like to move on to the
2 next page, which is page 2 of your CV, page 36 of the
3 PDF. Under the heading "Litigation Experience," do you
4 see that, Mr. Esselstyn?
5   A. Yes.
6   Q. Okay. I believe the first bullet under this
7 list is for this case; is that right?
8   A. Yes.
9   Q. And then the second bullet is for a case
10 called Grant versus Raffensperger; is that right?
11   A. Yes.
12   Q. Is that the case that you mentioned earlier?
13   A. Yes.
14   Q. Okay. Can you tell me a little bit about
15 what you did as an expert in this case in Georgia.
16   A. Yes. There were challenges to both the
17 Georgia state house and Georgia state senate
18 legislative plans, Section 2 challenges, and I was
19 asked to provide demonstrative maps in support of the
20 Gingles 1 recondition.
21   Q. And did you testify in court in this action?
22   A. I did.
23   Q. Okay. Did the Court credit your testimony?
24   A. Yes.
25   Q. Okay. Did the Court exclude any part of your

28

7 (Pages 25 to 28)

testimony?

A. No, not that I'm -- no. I don't think so.

Q. And then the next bullet, it says you were a consulting expert in the League of United Latin American Citizens versus Abbott in a Texas case in 2022; is that right?

A. Yes.

Q. Okay. And when you say "consulting expert," what do you mean by that term?

A. I provided consulting services to plaintiffs' counsel.

Q. Did you prepare any reports or testify in that case?

A. I prepared exhibits that were used in another expert's reports. When I say "exhibits," figures, graphics, I suppose, would be the more appropriate word.

Q. Do you know what kind of case that was?

A. I believe that was also a Section 2 case.

Q. And then the next bullet is the Rivera versus Schwab case in Kansas; is that right?

A. Yes.

Q. Did you perform similar consulting work there as you did in the Texas case in the bullet above?

A. Yes.

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Q. And then the next two bullets under that are the Harper versus Lewis case in Wake County and the Common Cause versus Lewis case in Wake County; is that right?

A. Yes.

Q. I notice you've got the 2019 date between the Harper v. Lewis case; is that right?

A. Yes.

Q. Okay. Did your work stretch into the iteration of that case that went on from 2021 to 2023 also?

A. No.

Q. So you did not prepare maps and figures for Dr. Chris Cooper and his expert report in that case?

A. Which case?

Q. Well, there were three cases. The North Carolina Supreme Court called it Harper. At the trial court level, it was NCLCB in January of 2022.

A. Okay. I did not do any work related to that case in 2021 or in any year since 2021. Does that answer your question?

Q. It does. What would you say if Mr. Cooper testified otherwise?

MS. THEODORE: Objection to form.

THE WITNESS: Mr. Cooper may have included

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maps in later reports that I prepared, but I didn't -- I did not collaborate with -- and I should say not Mr. Cooper --

BY MS. RIGGINS:

Q. Dr. Cooper. I'm sorry.

A. -- Dr. Cooper. I did not collaborate with him. I recommended another expert for him to work with that he may have considered that a contribution.

But your question was what? What would I say? I stand by my answer that I did not do any work in 2021 or any year since then related to that case.

However, I would understand it's possible that Dr. Cooper has credited me for having designed maps that he continued to use or maybe designed sort of a template for a map that he continued to use or whatever expert he worked with might have used.

Q. Okay.

A. I don't know. Frankly, I'm puzzled. I don't know.

Q. I just thought maybe you forgot to leave it off -- or put it on your CV. So, no worries.

What kind of consulting work did you do in the Common Cause v. Lewis case?

A. So I would say two categories -- general categories. One would be similar to what we've

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mentioned in earlier cases where I helped design visuals, maps, and other figures to go in another expert's report.

I also worked with the files that had been created by the late Dr. Hoffler and worked with analyzing those files.

Q. Did any of your work in the Common Cause v. Lewis case involve racial data?

A. I honestly don't recall. I have a vague recollection that there were some files in the Dr. Hoffler files that involved racial data. That's all that comes to mind right now.

Q. Is it your understanding that both the Common Cause and the Harper versus Lewis cases were partisan gerrymandering cases?

A. I'm sorry. Could you repeat the question.

Is it my understanding -- please repeat the question.

Q. Sure. Is it your understanding that the Common Cause versus Lewis and the Harper versus Lewis cases were partisan gerrymandering cases?

A. The parts of them that I was involved with, I would say yes. Again, I did not remain involved in the later iterations that you referenced, so I don't know.

Q. Okay. Is there a particular reason that you

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8 (Pages 29 to 32)

1 were not involved in the later iterations of the Harper
2 case?
3   MS. THEODORE: Objection. I think I'm going
4 to instruct him not to answer. I mean, I think this
5 would necessarily involve communications with
6 attorneys.
7   MS. RIGGINS: Yeah. I can try to rephrase
8 it.
9 BY MS. RIGGINS:
10   Q. Mr. Esselstyn, did you choose not to be
11 involved in the later iterations of the Harper case?
12   A. Yes.
13   Q. Okay. Any particular reason why without --
14 if you can answer this question without revealing
15 conversations you had with Ms. Theodore or any other
16 attorney at Poyner Spruill?
17   A. The primary reason was that I was getting --
18 in 2021, as I mentioned, I was involved with this
19 collaboration called the Local Redistricting Service,
20 which is offering nonpartisan redistricting services.
21   And there was concern that my involvement in
22 that case, a fairly high-profile North Carolina case,
23 might suggest that I was not acting in a nonpartisan
24 manner, or the perception that that might be the case.
25 So I chose to focus on the local redistricting projects

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1 instead.
2   Q. Okay. Thank you.
3   The next bullet says "Preparation of
4 redistricting map exhibits used in" -- I might butcher
5 this -- is it "Vesilind"?
6   MS. THEODORE: Patrick --
7   THE WITNESS: "Vesilind."
8 BY MS. RIGGINS:
9   Q. "Vesilind" -- okay -- "versus the Virginia
10 State Board of Elections."
11   Who retained you in that case?
12   A. That was pro bono, but my primary contact was
13 Brian Cannon.
14   Q. Did he represent a party in that case?
15   A. He was working with a team of attorneys
16 representing the plaintiffs, I believe.
17   Q. And then the last three bullets on this page
18 involve expert work you did for the City of Asheville;
19 is that right?
20   A. That's right.
21   Q. And was this work completed while you were a
22 City of Asheville employee?
23   A. Yes.
24   Q. Okay. So the first bullet here, City of
25 Asheville -- or Jensen versus the City of Asheville,

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1 what was this case about?
2   A. Municipal annexation.
3   Q. All right. Are the two cases listed below it
4 on this list also about municipal annexation?
5   A. They are.
6   Q. Okay. What sort of expert analysis did you
7 do in that case?
8   MS. THEODORE: Objection to form.
9   THE WITNESS: So the laws have changed, but
10 in city-initiated annexations in North Carolina, for
11 areas to qualify as eligible for annexation, they have
12 to meet one of -- or they had to meet one of a series
13 of tests, essentially.
14   All of these cases were challenges to
15 annexations that the City of Asheville had carried out,
16 and I was being asked to testify about the propriety, I
17 guess, the correctness of the analysis showing that the
18 areas that were annexed did indeed satisfy the test or
19 tests that needed to be satisfied.
20 BY MS. RIGGINS:
21   Q. And were you accepted as an expert witness in
22 each of these three cases?
23   A. Yes.
24   Q. Did the Court credit your opinion --
25   A. Yes.

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1   Q. -- in each of these three cases?
2   All right. We can go to the next page, the
3 "Public Project Redistricting Experience."
4   And here, it's a long list. It looks like
5 you've got a bunch of bullets here for electoral
6 redistricting work done in 2021; is that right?
7   A. And 2022 and 2023 and 2024.
8   Q. Okay. So the first bullet covers 2023 and
9 2024 for Buncombe County; is that right?
10   A. For the Board of Education, correct.
11   Q. And then the Wake County Board of Education
12 in 2021 and 2022 in the second bullet?
13   A. Correct.
14   Q. Okay. And then below that -- so on the --
15 starting on the third bullet to the next-to-the-last
16 bullet, all of that work was done in 2021; is that
17 right?
18   A. The next-to-the-last bullet on that page?
19   Q. On that page, yes.
20   A. Correct.
21   Q. Okay. And was this the work that you were
22 doing with the Local Redistricting Service that you
23 referenced earlier?
24   A. Correct.
25   Q. Okay. Did anyone else -- scratch that.

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9 (Pages 33 to 36)

1 Who did you work with on the Local
2 Redistricting Service?
3   A. There were, I guess, four primary attorneys
4 that I worked with. Marshall Hurley is one. Adam
5 Mitchell is one. Deborah Stagner is one. Caroline
6 Mackie is one.
7   There was another attorney at Poyner Spruill
8 whose name I'm blanking on, who was also working on a
9 couple of them. I remember Craven County, for example,
10 Fayetteville, but primarily those four attorneys.
11   And yes, I can identify the firms that --
12 other than Caroline worked for -- well, Caroline Mackie
13 works at Poyner Spruill. I don't know if I said that
14 explicitly, but --
15   Q. Did you work with any nonattorneys with the
16 Local Redistricting Services project?
17   A. There was an administrative person at Poyner
18 Spruill who helped with some of the administrative
19 aspects whose name is Sheila. I'm not remembering her
20 last name.
21   There was another demographer who was part
22 of the project, but he and I did not collaborate
23 specifically on any given project, but we kind of
24 traded notes from time to time about software, things
25 like that, but we were not working together on any one

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1 project.
2   Q. And what was the name of that demographer?
3   A. Bill Gilkeson. And he -- just to be clear,
4 your question was about other nonattorneys. Bill
5 Gilkeson had earlier in his career worked as an
6 attorney.
7   Q. Yes, for the legislature.
8   A. I think that's right, and private practice, I
9 think.
10   Q. Did Mr. Gilkeson assist you in drawing any of
11 the electoral redistricting plans in 2021 for the Local
12 Redistricting Service that are listed on this page?
13   A. No.
14   Q. Were you compensated by the Local
15 Redistricting Service for your work drawing these
16 electoral redistricting plans?
17   A. I would not describe it that way.
18   Q. How would you describe it?
19   MS. THEODORE: Objection to form.
20   THE WITNESS: Typically, the clients
21 contracted with the attorneys or their firms, and then
22 I was compensated by those firms. Essentially -- yeah,
23 I think that's a succinct way of putting it.
24 BY MS. RIGGINS:
25   Q. Did you use the 2020 decennial census data to

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1 draw the plans for the Local Redistricting Services
2 municipalities listed here?
3   A. Yes, with an asterisk.
4   Q. What's the asterisk mean?
5   A. The Town of Cary is there twice, perhaps you
6 noticed --
7   Q. Yes.
8   A. -- and at the bottom of the page, you can see
9 that they actually requested a new set of plans based
10 on estimated population data in advance of the delivery
11 of census data.
12   So that was the only instance where I was
13 working with something other than decennial census
14 data.
15   Q. Okay. What source did you use for the
16 estimated census data in that instance?
17   A. Data that had been provided by the Town of
18 Cary staff.
19   Q. Do you recall if it was ACS data?
20   A. I recall that it was not ACS data.
21   Q. Did you draw any statewide redistricting
22 plans in North Carolina following the 2020 decennial
23 census?
24   A. I think so. Just -- I think I did.
25   Q. Do you recall if those were submitted to

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1 anyone for a project, or was it just, you know, you
2 were just doing it to see what it would look like?
3   MS. THEODORE: Objection to form.
4   THE WITNESS: I would say these would have
5 been my own research and exploration, not submitted to
6 an external entity.
7 BY MS. RIGGINS:
8   Q. Were you hired by any public or private
9 entity to draw statewide redistricting maps in
10 North Carolina following the decennial census?
11   A. The 2020 decennial census?
12   Q. Yes.
13   A. I was not.
14   Q. For the counties and municipalities that you
15 worked with on this list through the Local
16 Redistricting Service, are any of these areas in a
17 challenged area of this complaint?
18   MS. THEODORE: Objection to form.
19 BY MS. RIGGINS:
20   Q. That was a bad question.
21   So, Mr. Esselstyn, did you perform any
22 municipal or county electoral redistricting services
23 for any of the counties in Senate District 1?
24   MS. THEODORE: Objection to form.
25   You can answer.

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10 (Pages 37 to 40)

1   THE WITNESS: When you say "Senate District
2 1," the current and active Senate District 1?
3 BY MS. RIGGINS:
4   Q. Yes.
5   A. Okay for me to refer to the earlier part of
6 my -- this report we're looking at?
7   Q. Sure. Why don't we turn, actually --
8   A. I believe --
9   Q. -- to page -- I think it's Figure 3 would be
10 helpful, so on page 8.
11   A. Okay. I'm looking at Figure 6 on page 13,
12 which shows --
13   Q. No. Can you go to Figure 3 for me on page 8.
14   A. Sure.
15   Q. There's a group of counties here in Figure 3
16 that are bordered in green lines. Do you see that?
17   A. Yes.
18   Q. Okay. Did you perform any redistricting
19 services for any of the counties or municipalities
20 within the counties within these green lines?
21   A. I don't believe so.
22   Q. And so for the work that you did for counties
23 and municipalities in 2021, did you use Maptitude to
24 draw those electoral districts?
25   A. I did not.

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1 redistricting software tool, which is -- Esri is the
2 largest company in the world of GIS, and they offer a
3 product that's a competitor to Maptitude, and during
4 that time, I was -- I had the license for the Esri
5 software and was not using Maptitude.
6   Q. Did you use the Esri software to produce any
7 work in this case?
8   A. No.
9   Q. Would you consider a census block a
10 geographic unit?
11   A. A geographic unit. I think so.
12   Q. What about a VTD, or a voting tabulation
13 district? Do you think that's a geographic unit?
14   A. Yes.
15   Q. Okay. Would your answer be the same for a
16 precinct?
17   A. Yes.
18   Q. Okay. Did you -- what geographic unit did
19 you draw -- do you generally start with when drawing
20 redistricting plans?
21   MS. THEODORE: Objection to form.
22   THE WITNESS: I think it depends on the plan.
23 There's not a one-size-fits-all approach that I would
24 say I use.
25

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1   Q. What did you use?
2   A. I just want to make clear for the record,
3 too, that some of the entities that I provided services
4 to in 2021 and subsequent years were not just cities
5 and counties, but also school boards.
6   Q. Okay. Did you do any work for any school
7 boards in the green highlighted area --
8   A. No.
9   Q. -- in Figure 3?
10   A. No.
11   Q. So you've never performed any work for any
12 county, municipality, any government agency in the
13 highlighted green areas in Figure 3?
14   MS. THEODORE: Objection to form.
15   THE WITNESS: I believe the answer is that
16 your statement is correct.
17 BY MS. RIGGINS:
18   Q. Did you use any map-drawing software to
19 complete the work that you did for the Local
20 Redistricting Services engagement in 2021?
21   A. Yes, I used multiple tools. I used a piece
22 of software that is mentioned in one of the attachments
23 to my reports, which is called QGIS, which is a GIS
24 tool that has a module for redistricting.
25   And I also had a license for the Esri

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1 BY MS. RIGGINS:
2   Q. So if you're drawing, say, electoral
3 redistricting plans for the City of Fayetteville for
4 city council, do you recall what geographic unit you
5 started drawing with there?
6   A. Yeah. I'm struggling with this question a
7 little bit because this sort of "starting with drawing"
8 implies that I'm -- like I have a blank page and I just
9 am sort of putting together pieces starting with a
10 blank slate.
11   I think maybe the best answer to your
12 question is that the geographic unit that I start
13 with -- or that I did in the case of the City of
14 Fayetteville was the existing districts.
15   In many cases, our process in the Local
16 Redistricting Service was to seek the input of the
17 board and basically ask for their direction as far as
18 what considerations we should be prioritizing and
19 taking into account.
20   So I believe -- and I'm not a hundred percent
21 certain, but I believe in the case of Fayetteville,
22 they did specify that preserving precincts intact
23 should be a consideration, but that was one of a number
24 of considerations. So --
25   Q. Mr. Esselstyn --

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11 (Pages 41 to 44)

1   A. -- I'll leave my answer there for now.
2   Q. Okay. Did you submit any redistricting plans
3 to the North Carolina General Assembly for
4 consideration in 2023?
5   A. I did not.
6   Q. Did you submit any maps to the North Carolina
7 General Assembly for consideration in 2021?
8   A. I did not.
9   Q. So I would like to look at page 7 -- I'm
10 sorry -- page 9 of your CV.
11   A. I'm there.
12   Q. Under the -- do you see the header "Published
13 Work" in -- it's about the center of the page?
14   A. Yes.
15   Q. By "Published Work," is this peer-reviewed
16 work?
17   A. In the sense that professional peers reviewed
18 it prior to publication, one could say yes, but not the
19 same way that a publication in a scientific journal
20 would be.
21   Q. Okay. Were any of the articles in the three
22 bullets listed here published in a scientific journal?
23   MS. THEODORE: Objection to form.
24 BY MS. RIGGINS:
25   Q. I'm sorry, I'm not sure. Did you answer,

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1 with each of those census geographies. So counties,
2 VTDs, blocks.
3   Q. And is that data based on the 2020 decennial
4 census?
5   A. Yes.
6   Q. What sort of data is found in the link in
7 Bullet C?
8   A. That's -- essentially it is a database file
9 that allows you to link the geographies from Bullet A
10 to the numbers from Bullet B --
11   Q. What sort --
12   A. -- or to other data.
13   Q. Okay. What data is found in the link at
14 Bullet D?
15   A. That is the special tabulation for citizen
16 voting age population, also from the census base.
17 Yeah.
18   Q. So is that sort colloquially known as ACS, or
19 American Community Survey data?
20   A. It is one subset of ACS data, correct.
21   Q. And then Bullet E, what sort of data is found
22 at this link?
23   A. This link has data comparing results from the
24 2020 census to census numbers from the 2010 census.
25   Q. Paragraph 2 references information found on

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1 Mr. Esselstyn? I'm not sure I could hear you over
2 Ms. Theodore.
3   A. My answer is no.
4   Q. I would like to move on to Attachment B to
5 your May report, which is on page 47 of the PDF is
6 where it starts.
7   A. Okay. I'm there.
8   Q. Can you explain what Attachment B is, please.
9   A. Attachment B is an explanation of the data
10 sources I used, the software that I used, and the
11 methodology that I used in the process of preparing the
12 report.
13   Q. Okay. And in paragraph 1, there are five
14 sublettered bullets here. Do you see that?
15   A. Yes.
16   Q. Okay. In Bullet A, there's something called
17 TIGER/Line files; is that right?
18   A. That's right.
19   Q. Okay. What's a TIGER/Line file?
20   A. These are essentially the files that
21 represent the shapes, if you will. So the geography,
22 the way that the area census geographies look on a map.
23   Q. Okay. And what sort of data is found in the
24 link in Bullet Point B?
25   A. That would be the population data associated

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1 the North Carolina legislative website redistricting
2 tab; is that right?
3   A. I'm not sure what you mean by "tab," but
4 there is text of the section of the website dedicated
5 to redistricting, and that's what the link was intended
6 to represent.
7   Q. In preparing your report, Mr. Esselstyn, did
8 you look at data from any other portions of the
9 North Carolina General Assembly's website other than
10 the redistricting web page?
11   A. Could you repeat the first part of your
12 question again, please.
13   Q. Did you look at any other portion of the
14 North Carolina General Assembly's website other than
15 the redistricting portion of the web page?
16   A. Not that I recall.
17   Q. So you don't recall if you looked at any of
18 the Senate Committee on Redistricting materials?
19   A. I certainly have looked at those in the past.
20 I was wondering about the Senate Plan Criteria
21 document, whether that might have been linked to one of
22 those pages. But as I say at the time I wrote this, I
23 said that that also included the criteria document.
24   That's the only thing I can --
25   Q. Did you -- go ahead.

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12 (Pages 45 to 48)

A. That's the only thing I can think of that might have been in another section of the web page or another -- yeah, another section of the website, would be the criteria document.

Q. Did you listen to any audio recordings on any Senate Committee on Redistricting and Elections hearings about redistricting?

A. Not as part of preparing this report.

Q. Did you listen to audio recordings of Senate Redistricting and Elections Committee meetings pertaining to redistricting for any other purpose?

MS. THEODORE: Objection to form.

THE WITNESS: I think I may have in the 2021 cycle.

BY MS. RIGGINS:

Q. And did you listen to any audio of Senate Redistricting Committee hearings regarding the drawing of the 2023 redistricting plans?

A. Not that I recall.

Q. Okay. Have you seen any transcripts of those committee meetings?

A. I don't think so.

Q. So flipping the page -- I think it's to page 48 in the PDF -- the next bullet says "To determine the home precincts of incumbent senators in

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districts that correspond to districts in the demonstration maps, I consulted a document provided to me by counsel."

Did I read that correctly?

A. Yes.

Q. Did you produce this document as part of your backup data with your expert report?

A. I don't think so.

Q. Okay. Do you know -- do you have any understanding as to the origin of this document other -- like how counsel might have obtained it?

A. I believe my understanding is that they requested --

MS. THEODORE: Hang on a minute. Sorry.

Can you repeat the question, Alyssa.

MS. RIGGINS: I'm asking if he has any understanding of the source of the data that was provided to him.

MS. THEODORE: I'll just instruct him to answer only to the extent that he has an understanding that isn't a basis -- you know, doesn't result from discussions with counsel.

THE WITNESS: I don't know what I can say. I mean, all of my understanding of the source of that document is based on discussions with counsel.

50

BY MS. RIGGINS:

Q. Did you make a public records request of the general assembly to get incumbent information?

A. I did not.

Q. Did you do anything to verify the accuracy of the addresses that were given to you by counsel?

A. I did.

Q. What did you do?

A. I think I mentioned this. Yes, I allude to this in paragraph 9 in this attachment.

I looked up the voter registration information for the senators whose residential addresses were in relevant districts.

Q. What website did you use to look up that information?

A. The North Carolina State Board of Elections.

Q. Thank you.

All right. Paragraph 4 references a dataset from the Redistricting Data Hub or RDH; is that right?

A. Yes.

Q. Okay. What is RDH?

A. The Redistricting Data Hub.

Q. So what does the Redistricting Data Hub do generally? What is it?

A. They provide data related to redistricting,

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as well as kind of educational products. They provide videos, for example, and kind of instructional videos.

And they had -- they hosted webinars during the redistricting cycle to basically provide in a one-stop shop a lot of the information that would be relevant for people who were drawing redistricting plans or analyzing redistricting plans as well as some datasets that they produce themselves.

Q. Is Redistricting Data Hub run by the U.S. Census Bureau?

A. No.

Q. Can you explain how you used RDH data in this case.

A. Yes. So in -- it's summarized in this paragraph.

The Redistricting Data Hub takes the CVAP special tabulation from the U.S. Census Bureau American Community Survey and does a -- performs a disaggregation to make that data available at the block level.

And that block-level data is what I used in the software when I was calculating black CVAP numbers and other CVAP numbers for the demonstration districts.

Q. Okay. And is this data needed because --

A. And just --

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13 (Pages 49 to 52)

Q. Okay.

A. My previous answer wasn't quite complete. I also calculated black CVAP data for inactive districts as well as demonstration districts.

Q. Is this RDH data needed because the ACS publishes the CVAP data at the block group level as opposed to the block level?

A. I wouldn't characterize it that way.

Q. Okay. How would you characterize it?

MS. THEODORE: Objection to form.

THE WITNESS: All of the demonstration districts in this report keep VTDs intact. So had the ACS data been provided at the VTD level, that would have been sufficient.

BY MS. RIGGINS:

Q. But ACS data is not provided at the VTD level, is it?

A. It is not.

Q. Okay. Is ACS data provided at something called the block group level?

A. Some ACS data, yes.

Q. Okay. Is the ACS data that you used in this case provided at the block group level?

A. Yes.

Q. Okay. What's a block group?

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A. As the name suggests, it's a group of blocks. It's sort of a tier on the -- one of the census hierarchies between a census tract and a census block.

So some tracts may just have a single block group. Other tracts have multiple block groups, and it's -- as I said, it's a collection of census blocks.

Q. Is the data from RDH that you use and is referenced in paragraph 4 similar to the decennial census data that you referenced in Bullet 1(b)? Is it the same type of data?

A. There are similarities and dissimilarities.

Q. Okay. So what are some of the similarities?

A. The data provides counts of the population and counts for certain subgroups by age and race and ethnicity. That's true of both.

I'm sorry. I've forgotten. Did you ask for what the similarities are?

Q. Yes, I did.

A. And they're provided at multiple geographies -- geographic levels.

Q. What are the dissimilarities between the two datasets?

A. The ACS data that I used includes citizenship information. The decennial census data does not include citizenship information.

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We talked already about how the decennial census information is available at the block level, whereas the ACS data is not. The decennial census data has a much deeper, more granular way of looking at the race and ethnicity categories or classifications than the ACS data.

The ACS data is based on a five-year period as opposed to a -- essentially the census is intended to be looking at a snapshot from the census year. And the ACS data is based on samples and not a full count the way the census is. So those data are reported as estimates, whereas the decennial data is considered a count.

There may be other dissimilarities, but those are the major ones that come to mind.

Q. Why did you choose to use Redistricting Data Hub as the source for the disaggregated data you used?

A. Well, the CVAP special tabulation is considered the best, the authoritative source for making determinations about citizen voting age population and distributions of various racial groups in their citizen voting age population.

So the Redistricting Data Hub starts with that authoritative dataset. It's considered the -- you know, the best one that is available for researchers

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and practitioners. And then they apply a recognized, robust disaggregation process that is well documented, and it seems to have become sort of the standard dataset to use for this type of analysis.

Q. And is the RDH method of disaggregation, is that included in the link here in paragraph 4? The second link. I'm sorry.

A. I believe so.

Q. Okay. Do you know how to disaggregate block group level data down to the block level?

A. Yes.

Q. Have you ever done it before yourself?

A. I have, I believe, yes.

Q. When do you believe you've done it?

A. Either 2021 or 2022.

Q. Did you do anything to verify that RDH had conducted the disaggregation correctly?

A. In 2021 and 2022?

Q. In preparing this report.

A. I did not.

Q. So paragraph 5 is "...the software application I used in the analysis of maps and the creation of demonstration districts is Maptitude for Redistricting produced by the Caliber Corporation."

Did I read that correctly?

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14 (Pages 53 to 56)

A. I'm sorry. I thought of just one other thing
to add to your previous question.

Q. Can you answer my previous question first?
Sorry.

A. When you say your previous question, the one
you just asked?

Q. The one you just asked. Sorry.

I'm trying, Mr. Esselstyn, to also -- I'm
trying to balance getting you out of here at a
reasonable hour with the long pauses. So --

A. I apologize.

Q. -- go ahead.

MS. THEODORE: Let me just object. Interject
a -- you know, it's fine to answer the most recent
question first, but, you know, you should feel free to
add if you feel like you need to supplement a prior
answer to make it complete.

THE WITNESS: Okay. I also have a
clarification about the software question, so --
BY MS. RIGGINS:

Q. I'd like you to add anything you'd like to
add to your answers about my questions to paragraph 4
in Attachment B, and then we'll move on.

You let me know when you're done talking
about paragraph 4 and I'll move on.

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A. Thank you. And, again, I apologize for the
pause.

I was going to add that Dr. Trende and
Dr. Collingwood also use the RDH CVAP data and
recognize it as a standard and I think have trust in
the methodology used by Redistricting Data Hub.

And I think your question about the software,
I believe you read the first sentence of the paragraph.
The one thing I wasn't sure I heard is the very first
word, which is that the Maptitude for redistricting is
"one" software application I use.
BY MS. RIGGINS:

Q. Sure.

Okay. Did you work with Dr. Collingwood in
the preparation of either of your reports in this case?

A. No.

Q. Are you aware that Dr. Collingwood has his
own methodology for disaggregating ACS CVAP data in its
public package?

MS. THEODORE: Objection to form.

THE WITNESS: I didn't hear -- I think the
objection, I didn't hear the last -- I apologize. I
didn't hear the last few words.

That Dr. Collingwood has his own methodology
for disaggregation of census data and something about a

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public package?
BY MS. RIGGINS:

Q. That's published in an EI package.

A. I've reviewed his report, and I saw something
about the fact that he had -- he's contributed to
certain coding packages that are available.

I was not aware that he had personally come
up with or that he has a methodology that -- I was not
aware of that.

Q. So you didn't use Dr. Collingwood's publicly
available EI package to disaggregate any CVAP data in
this case, did you?

A. I did not.

Q. Okay. So moving on to paragraph 5, did you
primarily use Maptitude for redistricting in the
creation of the demonstration districts in this case?

A. It kind of varied. I don't think that I
would answer that I primarily -- I used Maptitude for
redistricting as one of -- I tend to use multiple
tools, like my previous answer about what I use for the
Local Redistricting Service.

Q. Okay. Did you load any data into Maptitude?

A. I think in this instance I used the data
provided that's included with the software.

Q. Is the data provided by the Caliber

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Corporation, the decennial census data?

A. That is part of the data.

Q. What other data is included in Caliber's
package?

A. Oh, all kinds of geographic data that is not
related to any specific decennial census data. I mean,
they have relations, but, for example, a lot of other
geographic features that are visible are things that
one can turn on. They also by default -- I mean, they
have layers on things like ZIP codes and things like
that, landmarks, et cetera.

Q. Did the Caliber Corporation package that you
used in drawing this report contain any ACS data?

A. No.

Q. Did you load any ACS data into Maptitude for
your use in drawing?

A. For this specific project, I did not.

Q. And you can correct me if I'm wrong. It's
been a long time since I've seen a Maptitude pane
myself.

Is it still the case that you can have a view
pane that can show you district statistics as you are
drawing, like up in the corner?

A. Yes.

Q. Okay. Do you utilize that ability when

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15 (Pages 57 to 60)

you're drawing districts?

A. Sometimes.

Q. Did you have -- I'm going to ask you.

Mr. Esselstyn, is there a correct name for that data box? I've never known.

A. Yeah. Well, there are sort of two. There's the data view, but there's the pane that's like the -- what is it called? Another tool called, like, the preview. I'm blanking. I can picture it clear as day, but I'm blanking on what it says in the title.

But I think I know. There's one that you can see, for example, how the population in a district would change if you were to make a certain change before you commit to that change.

Q. Like a preview pane or something like that? That's what I've colloquially called it, but I'm sure that's not right.

Okay. Did you have the data view pane up while you were drawing any of the demonstrative districts in this case?

A. Yes.

Q. What data was displayed on that?

A. So I believe it has the total population, the deviation for the district from the ideal district population, the voting age population, the -- they

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allow in the data view, now you can turn on react compactness and Polsby-Popper compactness.

So those are available in the data view pane. Those do not show up in the preview pane, though, the compactness scores.

And the -- any part black voting age population, those are the columns that I -- I may be forgetting one, but I believe those are the columns in the data view.

Q. The any part black voting age population metric, is that from the decennial census data that's loaded into Caliber?

A. Correct.

Q. Did you have any political or election data up while you were drawing in the data view pane?

A. No.

Q. Did you use any political or election data at all when you drew the demonstrative districts?

A. No. And I mention this in the later part of the attachment we're looking at. The only -- yeah, the short answer is no.

Q. Did you load any socioeconomic data into Maptitude?

A. No.

Q. Did you use Caliber's socioeconomic data and

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put it up in the data view pane when you were drawing?

A. No.

Q. Flipping the page, paragraph 7, you say "I also used software called DRA 2020."

Is this Dave's Redistricting?

A. Yes. The "DRA" stands for Dave's Redistricting App. I think they're trying to brand it more as DRA. Yeah.

Q. All right. I came up in some of these cases when it was first available, so in my mind it's Dave's.

And then paragraph 9, is this the paragraph you were mentioning earlier when I asked you about election and partisan data?

A. Yes.

Q. Okay. So why did you choose not to look at any partisan election information?

A. I don't think I had any reason to.

MS. RIGGINS: Is now a good time for like a quick five-, seven-minute break?

MS. THEODORE: Sounds good to me.

(Off the record 10:47 a.m. to 10:55 a.m.)

BY MS. RIGGINS:

Q. So, Mr. Esselstyn, can we go to page 50 of this PDF, which I believe is Attachment C to your report?

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A. Yes.

Q. All right. I believe you called this a "Demographic summary for North Carolina counties"; is that right?

A. That's correct.

Q. Did you use a program like Maptitude to create this attachment?

A. I believe so.

Q. Do you recall what program you used?

A. I think I used Maptitude to export a subset of a data view, and then as a CSV file, like a commonly separated values file, and then brought that into Excel and used Excel to clean up the formatting a little bit.

Q. Okay. And is this utilizing 2020 decennial census data?

A. Yes.

Q. Okay. And is this total population or voting age population?

A. Total population.

Q. All right. I would like to turn to Attachment E in your report, which I believe is on page 157 of this PDF.

A. Okay.

Q. And I believe that this contains -- this attachment contains two items. First, the "2023 Senate

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16 (Pages 61 to 64)

1   Plan 'Stat Pack with Race,'" and then "Enacted 2023
2   plan CVAP statistics," which was prepared by you; is
3   that right?
4   A.   I think so, yes.
5   Q.   And did you pull the 2023 Senate Plan Stat
6   Pack with race down from the North Carolina General
7   Assembly's web page?
8   A.   I believe so, yes.
9   Q.   Okay. And so I believe the attachment that
10   you created is on about page 300-ish of the PDF --
11   A.   Yes.
12   MS. THEODORE: I think it's 301.
13   MS. RIGGINS: Is it 301? I was close. I was
14   trying to do a little subtraction.
15   BY MS. RIGGINS:
16   Q.   Can you tell me a little bit about what
17   Item 2 in Attachment E is.
18   A.   Yes. So this is providing the key figures
19   that were used to generate the black CVAP percentage
20   numbers that I report for the relevant enacted 2023
21   senate districts.
22   Q.   How did you go about creating this Item 2 in
23   Attachment E?
24   A.   I believe that I would have created this in a
25   similar fashion to the attachment -- the spreadsheet we

                                                          65

1   were talking about a few moments ago.
2   In other words, exporting a CSV file from my
3   redistricting tool and then formatting it in Excel.
4   Q.   Do you recall --
5   A.   Honestly -- go ahead.
6   Q.   I was going to ask what redistricting tool
7   you exported this from.
8   A.   Either QGIS or DRA.
9   Q.   Okay. And for the CVAP statistics, does this
10   use the 2016 to 2020 ACS five-year Community Survey
11   data?
12   A.   Yes.
13   Q.   Okay. And is this total population or voting
14   age population that's reported here?
15   A.   Voting age population.
16   Q.   Okay. If we can flip --
17   A.   To be more precise, it's citizen voting age
18   population.
19   Q.   Can we turn one page down to Attachment F,
20   please.
21   A.   Yes.
22   Q.   All right. So this contains two items. The
23   first is "Demographic summaries for Demonstration Maps
24   A, B, C, and D," and then "CVAP statistics for
25   Demonstration Maps A, B, C, and D"; is that right?

                                                          66

1   A.   That's right.
2   Q.   Okay. So I'd like to first look at page 303.
3   Can you -- so it says at the top "Plan Name:
4   Demonstration Map A"; is that right?
5   A.   Yes.
6   Q.   Okay. And it looks like this is from
7   Maptitude for Redistricting; is that right?
8   A.   Yes.
9   Q.   Okay. So can you explain to me what this
10   exhibit shows.
11   A.   This exhibit shows for the five districts in
12   Demonstration Map A, sort of a summary of various
13   demographic statistics.
14   So starting with overall population, and then
15   some deviation statistics, and then percentages for
16   various race and ethnicity categories.
17   Q.   And --
18   A.   And then there's summary statistics
19   underneath that for them, mostly having to do with the
20   total population numbers.
21   Q.   And this uses decennial -- or 2020 decennial
22   census data; is that right?
23   A.   That's correct.
24   Q.   And it looks like the column on the far
25   right, it says "Percentage 18 plus_AP_BLK"; is that

                                                          67

1   right?
2   A.   That's right.
3   Q.   All right. And is that the percentage of any
4   part-black voting age population in the district that's
5   reported in that column?
6   A.   Yes.
7   Q.   Okay. And for the other columns like
8   "Percent AP_BLK," that's total population, not voting
9   age population; is that right?
10   A.   That's right.
11   Q.   Okay. And are the same statistics reported
12   for Demonstration Districts B, C, and D on the next
13   three pages?
14   A.   I believe so. Let me quickly check. That
15   was my intent.
16   Yes.
17   Q.   All right. And then we get to -- after that
18   we get to something called -- I think it's the start of
19   Item 2 in Attachment F, a set of citizen voting age
20   population statistics for Primary Demonstrative A and
21   the accompanying districts; is that right?
22   A.   That's right.
23   Q.   Okay. And does this also use 2016 to 2020
24   ACS data from the five-year Community Survey?
25   A.   American Community Survey, yes.

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                                    17 (Pages 65 to 68)

Q. And did you load this into either QGIS and/or DRA to produce this item?

A. I wouldn't say I loaded it in. I exported data from one of those two pieces of software and then loaded it into Excel to create this.

Q. Does DRA come with ACS five-year Survey data already loaded?

A. Yes.

Q. Does QGIS?

A. No.

Q. Did you load any ACS data into QGIS?

A. I did.

Q. Okay. Do you have a specific recollection of creating this item in front of you at page 307 in this PDF using QGIS?

A. Again, I don't recall if I exported the data from QGIS or DRA. I used DRA as a corroboration of the numbers that I got in QGIS. So the numbers were the same, and I think those tools make it similarly easy to export data. So I honestly don't recall.

Q. Okay. The next -- well, actually, and then are these same citizen voting age population statistics reported for Demonstration Districts B, C, and D on the next three pages?

A. Demonstration Maps, yes, B, C, and D, and the

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nearby districts, yes.

Q. I'd like to turn to Attachment G, which I think is at page 312 of your report.

A. Thank you. You clarified something I had been uncertain about before. It looks like this URL was from one of the committee pages, so --

Q. Okay. And are you looking at the "2023 Senate Plan Criteria" found at page 312 of your report?

A. Yes.

Q. And you downloaded this from the North Carolina General Assembly's website?

A. Yes.

Q. Okay. So let's walk through these criteria.

Did you comply with the equal population criteria in drawing Primary Demonstration Districts A, B, C, D, and E?

A. Yes.

Q. How did you go about making sure of that criterion?

A. Please repeat the question. How did -- please repeat the question.

Q. Sure. How did you go about ensuring this criterion was met in Demonstration Plans A, B, C, D, and E?

A. This is a very basic standard function of any

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redistricting tool that it shows the population for any district that's being drafted or analyzed and also what the deviation from what the ideal population would be.

And QGIS even color-codes it if you're meeting the population deviation. So it's just a visual examination to compare the number to -- the deviation number to plus or minus 5 percent.

Q. Okay. In the first sentence of the "Equal Population" criterion, it says "The Committee chairs will use the 2020 federal decennial census data as the sole basis of population for the establishment of districts in the 2023 Senate Plan."

Did I read that correctly?

A. I think so, yes.

Q. Okay. Did you only use the 2020 federal decennial census data to calculate your equal population scores?

A. Yes.

Q. Did you attempt to see what the population deviation would be using ACS five-year Community Survey estimates?

A. No.

Q. Why not?

A. I don't think there would have been any reason to.

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Q. Why not?

A. I'm not aware that -- of any instance where ACS data would be considered -- would be used for the population count.

Q. Is there a particular reason why you wouldn't use ACS data for the population count?

MS. THEODORE: Objection to form.

THE WITNESS: In my professional experience, decennial census data is what's used for the population count and for complying with equal population.

BY MS. RIGGINS:

Q. And is that because it's a hard count, the decennial censuses?

A. It's interesting. This is an interesting question. It's a convention. It's a standard that I don't know that I've ever heard anyone question before.

I know the U.S. Constitution references the census, the decennial census, and establishes the requirement for the census, and my understanding is part of the reason for that was for rebalancing population in the U.S. House of Representatives.

I think my best answer is just that that's -- in everything I've ever seen, the decennial census data is what's used for the population counts for --

Q. Would -- go ahead. I'm sorry.

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18 (Pages 69 to 72)

1   A.   Just as far as it relates to the deviation
2 from -- establishing ideal population and how district
3 populations deviate from that.
4   As I mentioned, there was the case in the
5 Town of Cary where they specifically requested
6 districts be drawn based on population numbers that
7 their staff -- municipal staff had generated. I'm not
8 aware of departures from that for drawing like general
9 assembly districts or congressional districts.
10   Q.   Would you feel comfortable reporting
11 population deviation information using ACS five-year
12 Community Survey estimates?
13   MS. THEODORE: Objection to form.
14   THE WITNESS: Would I feel comfortable
15 reporting?
16   I mean, if I identified that as what it was
17 and I was confident that I had made the calculations
18 correctly, I suppose I would feel comfortable
19 reporting, but I don't --
20 BY MS. RIGGINS:
21   Q.   Sure. Would you feel comfortable testifying
22 under oath that a specific district was within plus or
23 minus 5 percent of the ideal population using ACS
24 five-year Community Survey estimates?
25   MS. THEODORE: Objection to form.

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1   THE WITNESS: It seems like a lot of
2 speculation. I think it would depend on the situation.
3 BY MS. RIGGINS:
4   Q.   Have you ever seen an expert report
5 population deviation limits within plus or minus
6 5 percent using ACS five-year Community Survey data?
7   A.   Not that I recall.
8   Q.   All right. The next bullet on the list is
9 "Counting Groupings and Traversals," and this is
10 commonly known as the Stephenson grouping requirement;
11 isn't that right, Mr. Esselstyn?
12   A.   Part of what's discussed here is -- has to do
13 with groupings, yes.
14   Q.   Okay. Why don't you explain to me what this
15 criterion means to you.
16   A.   So there was a court case and various
17 opinions related to that court case and sort of
18 subsequent related cases that are referenced in the
19 document that we're looking at, and these opinions
20 provided guidance on drawing state legislative
21 districts in North Carolina, including guidance on how
22 counties should be grouped, and also compliance with
23 the Voting Rights Act.
24   Q.   Okay.
25   A.   But there's also some mention in here about

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1 traversals specifically, and so that's -- one could
2 argue that's separate from the grouping piece.
3   Q.   In what way?
4   A.   The convention is -- or the expectation, as I
5 understand it, is that if a county is to be divided, it
6 should be divided in such a way as to minimize the
7 number of traversals.
8   In other words, if you're going to have to
9 draw a line against a county, it should be one line
10 separating the two districts, not two separate lines
11 that are putting one corner of one county into another
12 district and then another corner of that county into
13 the same other district.
14   And that, to my mind, is independent of the
15 grouping piece.
16   Q.   Okay. So talking just about the grouping
17 piece for a minute, how did you go about complying with
18 the county grouping piece of this criterion?
19   A.   In the context of this report?
20   Q.   Yes.
21   A.   I relied on groupings generated by
22 Dr. Mattingly.
23   So based on what we've today been calling the
24 primary demonstration district in each of these maps,
25 Dr. Mattingly looked at what groupings would be based

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1 on those demonstration districts, and then I drew the
2 nearby districts based on those groupings.
3   In the instance of Demonstration Map A, he
4 also froze another enacted district in addition to
5 Demonstration District A.
6   Q.   Do you recall what enacted district that was?
7   A.   It's the district -- I don't know the number
8 off the top of my head, but it's the district
9 containing Pitt County and Edgecombe County.
10   Q.   Did you rely on the county groupings that
11 Dr. Mattingly provided to you, or did you do any
12 independent analysis separate from Dr. Mattingly?
13   A.   The former.
14   Q.   And I believe you mentioned the VRA when you
15 were explaining your understanding of this criterion;
16 is that right?
17   A.   Yes.
18   Q.   Okay. And if I say "VRA," do you understand
19 that I mean the Voting Rights Act of 1965?
20   A.   Yes.
21   Q.   Okay. How does the VRA impact your
22 understanding of this criterion?
23   MS. THEODORE: Objection to form and
24 objection to the extent it calls for a legal
25 conclusion. But you can answer.

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19 (Pages 73 to 76)

MS. RIGGINS: I'm asking for his understanding of the criterion.

THE WITNESS: The opinion that -- or opinions that set forth and clarify the grouping process, both the opinions that I've looked at as well as other people's kind of summaries or distillations of the opinions, always point out that the Voting Rights Act needs to be complied with, and that part of complying with Stephenson is complying with the Voting Rights Act.

BY MS. RIGGINS:

Q. So, Mr. Esselstyn, let's say that the North Carolina General Assembly determined that all three of the Gingles factors in the totality of the circumstances were met in Buncombe County, and they needed to draw a Voting Rights Act district in Buncombe County.

How would -- would that district in your understanding get drawn before the country grouping formula?

A. I'm sorry. I think it actually is relevant to your question. Are you talking about a senate district or a house district?

Q. Senate district.

A. Say it again.

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Q. I don't think it's actually relevant. We'll call it senate district.

A. I have seen analysis saying that VRA districts should be drawn first.

Q. Do you agree with that analysis?

MS. THEODORE: Objection to the extent it calls for a legal conclusion.

THE WITNESS: In that I am -- the particular summary that I'm thinking of was on the general assembly's website, and -- yeah. I'm hesitating because I think it's a legal conclusion.

It's the process -- whether the process needs to be done in one specific way every time, I'm not ready to offer an opinion on that.

BY MS. RIGGINS:

Q. Okay. Let's say the general assembly was going to adopt your Demonstrative -- Primary Demonstrative District A. It's not within any preexisting North Carolina county groupings, is it?

MS. THEODORE: Objection to form.

THE WITNESS: I don't know the answer to that question because I have not studied all preexisting county groupings.

BY MS. RIGGINS:

Q. Okay. We'll come back to this later.

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Is it your understanding that you drew compact districts for Demonstrative Primary Plans A, B, C, D, and E, Mr. Esselstyn?

A. Yes.

Q. Okay. And are all of the districts that you drew contiguous?

A. Yes.

Q. How did you comply with the criterion enacted by the general assembly not to use racial data?

A. As I state in my report, I did consult racial data by necessity. It was -- I couldn't have done the analysis that I was asked to do without consulting racial data.

Q. All right. And the Senate Plan Criteria also called for partisan or political considerations when drawing a map; is that right?

A. I believe it says they may consider partisan advantage and incumbency protection.

Q. Do you understand that the North Carolina Senate considered incumbency and partisan advantage in drawing the 2023 Senate Plan?

MS. THEODORE: Objection to form.

THE WITNESS: My understanding is that it was considered.

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BY MS. RIGGINS:

Q. Did you consider partisan advantage in drawing any of your demonstration maps?

A. No.

Q. Then let's turn to Attachment J in your report, please. And I think it's the very last page of the report.

A. Got it.

Q. All right. So here you report something called "political subdivision splits"; is that right, Mr. Esselstyn?

A. Yes.

Q. And it looks like these statistics were generated from Maptitude; is that right?

A. Yes.

Q. And you report both counties split statewide and VTDs split statewide for both the enacted 2022 and 2023 plans; is that right?

A. Yes.

Q. Why did you include the enacted 2022 plan?

A. I think at the time I started my work on this case, that might have still been the plan that was in effect, and -- yeah.

Q. So, Mr. Esselstyn, is it your testimony that you were retained as an expert to challenge

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20 (Pages 77 to 80)

¹ redistricting plans that were not yet enacted by the
² North Carolina General Assembly?
³   A. At the time I was retained, I believe they
⁴ were not enacted, but the -- let me just see. I want
⁵ to make sure because I know in my report -- I'm going
⁶ to look at the paper copy of this same report we're
⁷ looking at. I just think it might be faster because I
⁸ know I included the date the 2023 plans were enacted.
⁹ October 25th.
¹⁰   I may be wrong about whether these had been
¹¹ enacted at the time I was retained, but they're still
¹² the most -- as of the time we're talking, they are the
¹³ most recent enacted plans that had been used in an
¹⁴ election.
¹⁵   Q. And it appears that both the 2022 enacted and
¹⁶ the 2023 enacted plans both split 15 counties
¹⁷ statewide; is that right?
¹⁸   A. Yes.
¹⁹   Q. Okay. The statistics that you're reporting
²⁰ for Demonstration Map A, B, C, and D are statewide; is
²¹ that right?
²²   A. Correct.
²³   Q. Did you draw any statewide maps for this
²⁴ report, Mr. Esselstyn?
²⁵   A. No. Well, I think technically in Maptitude I

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¹ used a statewide map, but there's a note -- you see the
² note in this attachment that says "Statewide statistics
³ for demonstration maps assume all districts outside of
⁴ the maps are identical to the 2023 enacted districts."
⁵   Q. So that's an assumption that you made,
⁶ Mr. Esselstyn; is that right?
⁷   A. I would say it's an assumption that I used
⁸ for the statistics, yes. And as I said, in Maptitude,
⁹ the demonstration districts were part of a statewide
¹⁰ plan where all those -- any of the districts I didn't
¹¹ change were identical.
¹²   So, again, the verb "assume" there is being
¹³ used in reference to these statistics. I don't think
¹⁴ characterizing my assertion as an assumption. I have
¹⁵ total confidence that all the other districts that were
¹⁶ used in generating these statistics are indeed
¹⁷ identical.
¹⁸   Q. And is that because they were part of a
¹⁹ statewide map?
²⁰   A. Yes. As I said, in Maptitude, I -- the
²¹ enacted plan was my starting point, and then I authored
²² a subset of districts within that.
²³   Q. Which enacted plan was your starting point?
²⁴   A. The 2023 enacted plan.
²⁵   Q. Did you produce the statewide plan for each

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¹ demonstration map that you're referring to?
²   A. What do you mean by "produce"?
³   Q. Is it included in the backup data to your
⁴ report?
⁵   A. I don't think so. It seemed to me that it
⁶ would be redundant.
⁷   Q. Even though you used the statewide map to
⁸ bolster your findings in Attachment J?
⁹   MS. THEODORE: Objection to form.
¹⁰   THE WITNESS: I could have achieved the same
¹¹ numbers that I provide in Attachment J purely by logic
¹² and comparing the number of split counties in the
¹³ districts in the enacted map, the districts that I
¹⁴ changed, comparing that to the districts from the
¹⁵ demonstration maps and then simply added that number,
¹⁶ the whatever additional split counties.
¹⁷   So I could have obtained these numbers
¹⁸ without having the entire map in Maptitude, as I've
¹⁹ described. I honestly -- I don't see why regurgitating
²⁰ the same statistics that are in the stat packs that I
²¹ provided for the enacted districts -- there's also text
²² in the body of the report that specifies which counties
²³ were split relative in each of the demonstration maps.
²⁴   So I don't -- I don't know if that answers
²⁵ your question.

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¹ BY MS. RIGGINS:
²   Q. Do you understand that the general assembly
³ has to draw state senate districts in the concept of an
⁴ entire statewide plan, Mr. Esselstyn?
⁵   MS. THEODORE: Objection to form.
⁶   THE WITNESS: I don't know that I agree with
⁷ that statement.
⁸ BY MS. RIGGINS:
⁹   Q. Okay. So after the 2020 decennial census,
¹⁰ could the general assembly have decided just to change
¹¹ Senate Districts 1 and 2 and leave the rest of them as
¹² they were for the previous decade?
¹³   A. I don't think they would have passed the
¹⁴ legal test of "One Person, One Vote," but they could
¹⁵ have tried to do that, I suppose.
¹⁶   Q. I guess what I'm getting at, Mr. Esselstyn,
¹⁷ is we're just kind of required to take your word for it
¹⁸ that there aren't any other county splits and that the
¹⁹ rest of the enacted 2023 plan stays the exact same with
²⁰ your new demonstrative plans because you didn't provide
²¹ us any backup data to test that.
²²   MS. THEODORE: Objection to form.
²³ BY MS. RIGGINS:
²⁴   Q. Is that fair?
²⁵   A. I don't think it's fair at all. So do you

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21 (Pages 81 to 84)

1 remember when we were scrolling through and the stat
2 pack was more than a hundred pages?
3   Q. Sure.
4   A. Yeah. The Political Subdivision Split Report
5 is a lengthy document, and since the vast majority of
6 the districts in each of my demonstration maps is
7 unchanged, that information is already in the stat
8 packs. The second line on this report says it's a
9 summary of statistics from those reports.
10   I would also say that you can see pretty
11 clearly in the actual maps provided in my report where
12 the county splits are, and it's consistent with where I
13 describe them to be in the prose that I include.
14   I also provided Shake-Files. It's not that
15 hard for folks who are comfortable working with
16 Shake-Files to import those into mapping software, and
17 those would also indicate where county splits occurred.
18   Yeah. I do not agree that this is somehow
19 presenting information without enough corroborating
20 evidence being supplied.
21   Q. Sure. You didn't produce any Shake-Files for
22 statewide plans with your backup data, did you,
23 Mr. Esselstyn?
24   A. No. The -- all the districts outside of the
25 districts I provided in the Shake-Files were identical

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to the enacted districts.
2   Q. But you didn't produce Shake-Files for us to
3 verify that there was a cohesive statewide plan using
4 these demonstrative maps, did you?
5   A. Again, I would say that using the Shake-Files
6 that I did provide, a properly equipped analyst could
7 very easily determine that no other districts -- no
8 other part of the statewide plan was affected.
9   Q. They could do it because you did not provide
10 any statewide Shake-Files associated with any of your
11 demonstrative plans?
12   MS. THEODORE: Objection to form.
13   THE WITNESS: I guess I've asserted under
14 oath that the districts I provided were the districts
15 that were modified in any way.
16   If someone were to believe that I erred
17 somehow, as I say, it would be -- I would invite anyone
18 to try and find a mistake or some -- I'm -- frankly,
19 I'm sort of puzzled because I struggle to see a
20 scenario where I would have somehow tried to
21 surreptitiously modify other districts.
22   Again, I'm struggling to --
23 BY MS. RIGGINS:
24   Q. That's not what I'm asking. I'm just saying
25 we can't see the entire statewide plan that you say you

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1 were viewing in Maptitude because we didn't get the
2 files --
3   MS. THEODORE: Objection to form.
4 BY MS. RIGGINS:
5   Q. -- did we?
6   A. I would say that you can see the relevant
7 component parts for the districts. When I say
8 "component parts," the reports and geography and
9 documentation that was provided by the general
10 assembly, some of which we've looked at so far today,
11 which provide information about all the enacted
12 districts which are the districts that I did not
13 provide information for myself, as I said, because I
14 felt it to be redundant.
15   Q. Okay. So when you started drawing
16 Demonstrative Plans A, B, C, and D, the primary
17 demonstrative plans, I believe you testified earlier
18 that you started with the 2023 enacted plan; is that
19 right?
20   A. When I was working in Maptitude, I used the
21 entire plan.
22   Q. How did you start drawing Demonstrative A,
23 Mr. Esselstyn?
24   A. I think the first exploration was in DRA, and
25 I remember looking at the enacted 2022 and 2023. At

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1 that point the -- I think they had been adopted at that
2 point -- or enacted, but I think in that case, I may
3 have started sort of my initial exploration with a
4 blank slate.
5   Q. Okay.
6   A. I mean, I may have had both of them up in
7 different windows on my computer, but I didn't import
8 any enacted plan into DRA when I began.
9   Q. Okay. What sort of exploration did you do in
10 DRA with regard to Demonstrative A?
11   MS. THEODORE: Objection to form.
12   THE WITNESS: I mean, the classic process of
13 drafting districts, sort of trying out different
14 configurations, seeing how they are on compactness, on
15 population deviation, on communities of interest, the
16 criteria we've described or we went through earlier
17 looking at another attachment, as well as the
18 demographics of the district.
19 BY MS. RIGGINS:
20   Q. The demographics of the district? What do
21 you mean?
22   A. The -- well, the population equality, but
23 also the black voting age population.
24   Q. Did you save any of these testing maps that
25 you were working on in DRA?

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22 (Pages 85 to 88)

A. I don't think I saved, like, different variations that I tried. Basically in DRA you work within a project and, you know, come back to it and make changes, as with many other computer files. I don't recall keeping separate copies of things that I tried.

Q. Did you import any of your work in DRA over to Maptitude?

A. Yes. Well, it may have actually been from QGIS to Maptitude.

Q. Did you begin drawing Demonstratives B, C, and D in DRA also?

A. I apologize for the pause. I'm trying to think through sort of how that process unfolded. I'm not a hundred percent sure, but I think so.

Q. Do you recall which demonstration plan you started drawing first?

A. I think it was A.

Q. Okay. Did you start with a specific county?

A. Not that I recall.

Q. At what point did you switch over from drawing in DRA to drawing in Maptitude?

MS. THEODORE: Objection to form.

THE WITNESS: As I sort of alluded to -- not sort of -- I alluded to earlier, my process, I tend to

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use different tools for different parts.

And as soon as I'm curious about compactness scores -- after, you know, the years I've spent doing this, I'm pretty comfortable judging compactness just based on looking at things. But when I become interested in actual compactness scores, that's one moment when I would typically work in Maptitude for redistricting, for example. I feel that it has the best tools for analyzing compactness.

But I don't have, like, a defined step-by-step process that I follow every time and, you know, in step three, I go over to Maptitude for redistricting.

BY MS. RIGGINS:

Q. Did you draw an entire demonstration map in Dave's Redistricting and only Dave's Redistricting?

A. Entire map. As I mentioned, I used QGIS to corroborate the CVAP statistics for the demonstration plan's districts, as well as enacted plan's -- well, the districts.

So part of the process included -- for all of the plans included analysis in QGIS. And for compactness, as I said, I used Maptitude for redistricting as well as for generating the demographic reports that we looked at earlier.

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So part of my process for the creation and finalizing of those as plans that I was going to present involved using the three tools I've mentioned.

Q. So is the answer to my question no?

MS. THEODORE: Objection to form.

THE WITNESS: I think the answer depends on how you -- your question was something along the lines of did I complete the drawing of the districts using DRA.

BY MS. RIGGINS:

Q. Did you exclusively use Dave's Redistricting to draw any demonstration district in this case?

A. I think that depends on what you -- how you would define "draw."

Q. Did you use Dave's Redistricting exclusively to create any of the demonstration districts in this case?

A. Insofar as the process involves, as I mentioned, checking compactness scores, checking other demographic characteristics, I was using other tools.

Q. When you were moving the lines around to create Demonstration District A, were you primarily doing that in Dave's Redistricting?

A. Primarily, yes.

Q. When you were moving the lines around to

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create the other demonstrative districts of B, C, and D, were you primarily using Dave's Redistricting?

A. I think with B and D and C, I used QGIS and Maptitude more.

Q. Mr. Esselstyn, can you walk me through how you created Demonstration Map A.

A. I think some of that is maybe privileged, and you asked me earlier at the very beginning of this conversation not to get into territory that might be privileged, so --

Q. Skipping the privilege, how did you get started?

MS. THEODORE: I'm sorry. What was the first word in that question, Alyssa?

BY MS. RIGGINS:

Q. Skipping the privileged information, how did you get started?

A. I think the start of the process involves privileged information.

Q. Does any part of the process involve nonprivileged information?

A. Yes.

Q. Can you tell me about the nonprivileged portion of drafting or creating Demonstration District A.

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23 (Pages 89 to 92)

A. I think I've already discussed that, the process of trial and error and, as you said, moving the lines back and forth and seeing how that impacts the various criteria that I mentioned earlier.

Q. Did you produce any Dave's Redistricting files with your backup data in this case?

A. I don't think there's such a thing as a Dave's Redistricting file in the current -- in the 2020 version.

The previous decade's version did have, like, software specific. But mostly what you would export from Dave's Redistricting App are just things like Shake-Files or -- you know what? I'm questioning -- there may be an XML format that I've never tried to export.

Q. Can you export BAF files from Dave's Redistricting?

A. I think I exported the BAF files from -- honestly, I have to say I'm not a hundred percent sure that the block assignment files -- I think I provided block assignment files in the PI phase.

But block assignment files from Dave's Redistricting App would look virtually identical -- I mean, except for maybe the column headings -- to ones that were generated from Maptitude for Redistricting or

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from QGIS.

So -- but I think what I provided were for -- in accompanying this report were Shake-Files, and I don't think that I exported those from Dave's Redistricting. I think I exported them from QGIS.

Q. Okay. Did you load a partial version of Demonstrative Plan A from Dave's Redistricting into Maptitude at any point in this case?

A. A partial version?

Q. Or an entire version? Any version?

A. Yes. Yes, I think so.

Q. How did you go about doing that?

A. Using a block equivalency file.

Q. Did you include that block equivalency file in your backup data in this case?

A. No. Your question was about a partial version of Demonstration Map A; correct?

Q. Did you include any block equivalency files exported from Dave's Redistricting in the backup data produced in this case?

A. Possibly in the PI phase.

Q. With the May 2024 report, did you include any block equivalency files exported from Dave's Redistricting with your backup data?

A. No.

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Q. Okay. About how long did it take to draw Demonstrative District A -- or Map A? I'm sorry.

A. That's hard to say. Around a day, all pieces considered. And I say a day, I meant eight to ten hours roughly.

Q. Did it take about the same amount of time to draw Demonstrative Maps B, C, and D, or did it take less time?

A. I think D took less time. D is quite similar to B.

Q. Were you trying to get Demonstrative District A or Demonstrative -- yeah, Primary Demonstrative District A to a specific black voting age population level?

A. I think the answer to that is no.

Q. You were not trying to get Demonstrative -- Primary Demonstrative District A to a black voting age population to above 50 percent?

A. I think the answer to that is yes. When I heard you say "specific level," to me that suggests like a specific number, one target number. Yes -- no. I was asked to -- that's one of the things counsel asked me to do was to create a majority black district.

Q. Can you look at page 5 of your May report, please, Mr. Esselstyn.

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A. Page 5 in the PDF or -- I guess it's the same. Yep. I'm there.

Q. Okay. I'd like to look at Figure 1, please.

Did you use Maptitude to create this graphic?

A. No.

Q. What did you use?

A. QGIS.

Q. Okay. And does Figure 1 represent the eight majority black North Carolina counties?

A. Yes. As specified in the paragraph that precedes the figure, this is looking at total population, which is why that attachment that we looked at earlier listed total population, the one showing all the counties.

Q. All right. Did you ever consider offering this eight-county grouping as a demonstration district in this case?

A. I don't think so.

Q. Why not?

A. I don't think it would meet -- I'm not a hundred percent certain, but I don't think the population is right.

Q. And you can correct me if I'm wrong, Mr. Esselstyn, but I don't believe that any of your demonstrative districts, A, B, C, D, or E, the primary

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24 (Pages 93 to 96)

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1   districts include Edgecombe County; is that right?
2   A. That's right.
3   Q. Why not?
4   A. That was part of the direction from counsel.
5   Q. I would like to turn to page 7, please.
6   A. Okay.
7   Q. Can you tell me what Figure 2 depicts,
8   please.
9   A. Yes. Figure 2 is a map of northeastern
10 North Carolina that shows county lines, and then within
11 those counties, the voting districts or VTDs are also
12 shown represented by a shade of green ranging from very
13 light green to dark green depending on the percentage
14 of the voting age population that is black.
15   Q. Did you use QGIS to create this?
16   A. I did.
17   Q. I want to ask you a couple questions about
18 the shading, if I can.
19   So the lightest green is zero to
20 14.99 percent; is that right?
21   A. It is.
22   Q. Okay. And the darkest green encompasses
23 50 percent and above; is that right?
24   A. That's right.
25   Q. Okay. And this map was drawn at the VTD

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1   level -- is that right? -- the shading drawn at the VTD
2   level?
3   A. Yes.
4   Q. Okay. And so the darkest green shading, that
5   VTD could either be 50.1 percent or 99.9 percent black
6   voting age population; is that right?
7   A. Theoretically.
8   Q. Okay. And percentage of black voting age
9   population, is this the decennial census data that
10 you're using here?
11   A. Yes.
12   Q. Okay. And if I keep saying "decennial census
13 data," will you understand that I mean 2020 decennial
14 census data?
15   A. Yes. Yes.
16   Q. I'm not suggesting you used 2010 decennial
17 census data to draw this. I understand. Yeah.
18   A. I think there's a footnote here basically
19 saying those are data I'm relying on unless I state
20 otherwise.
21   Q. Okay. And then on Figure 2, the counties,
22 are those borders depicted in the same, you know, gray
23 lines that border the figure itself?
24   A. There is a rectangle around the figure that
25 looks like a similar shade of gray.

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1   Q. Okay. And so, I'm not trying to be difficult
2   here. I'm just trying to make sure the record is
3   clear.
4   You're not showing the entire state of
5   North Carolina here in Figure 2, are you,
6   Mr. Esselstyn?
7   A. I'm not. The title, yes, it's northeastern
8   North Carolina.
9   Q. So the left-most vertical line in this
10 rectangle, that's a boundary of the figure, not a
11 county line for the counties that would otherwise be
12 running through this map; is that right?
13   A. Correct.
14   Q. Okay. But then, you know, in the
15 northeastern -- very northeastern corner of the state,
16 you've got gray lines that are representing county
17 boundaries; is that right?
18   A. Correct.
19   Q. When you were drawing Demonstrative District
20 or Map A in Dave's Redistricting, were you using VTDs
21 as the smallest drawing block?
22   A. No.
23   Q. What drawing block were you using?
24   A. Counties.
25   Q. Counties. Okay. Did you use any other

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1   drawing block throughout your creation of Demonstrative
2   Map A?
3   A. Yes.
4   Q. What other drawing blocks did you use?
5   A. VTDs.
6   Q. Did you use census blocks at all?
7   A. I don't believe so.
8   Q. Okay. So I would like to look at
9   Section III -- Roman numeral III of your report that
10 starts on page 7 about the Stephenson county grouping
11 requirements, and specifically I'd like to look at
12 page 8.
13   A. I'm there.
14   Q. All right. So Figure 3 is entitled "Two
15 county cluster alternatives for northeastern
16 North Carolina"; is that right?
17   A. Yes.
18   Q. And then in the top box it says "Two
19 Initially Identified Senate District County Grouping
20 Options Following the 2020 Census"; is that right?
21   A. Yes.
22   Q. Okay. And just so the record is clear, is it
23 your understanding that "county groupings" and "county
24 clusters" refer to the same thing, Mr. Esselstyn?
25   A. In one of the papers that Dr. Mattingly

25 (Pages 97 to 100)

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created or cocreated, coauthored, there's a distinction
made between "clusters" and "clusterings."

Q. That wasn't my question.

A. I'm trying to answer your question.

And I think the word "grouping" is sometimes
used as both a synonym for "cluster" and a synonym for
what Dr. Mattingly calls "clusterings."

Q. So you've titled this figure two different
ways. Does it mean two different things because you
used the term "grouping" versus "cluster" in one of
them?

A. In this instance, no.

Q. There are two different groupings depicted in
Figure 3; is that right?

A. Two different grouping options, yes.

Q. Okay. And do you know if the grouping option
on the right is enacted Senate Districts 1 and 2 in the
2023 Senate Plan?

A. I believe that's correct.

Q. Okay. And the map on the left-hand side, is
this enacted Senate Districts 1 and 3 in the 2022
Enacted Senate Plan?

A. The short answer is yes. I suppose this is
meant to show groupings and not districts, but the
districts you mentioned were created consistent with

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these groupings for both 2022 and 2023.

Q. Right. So in other words, the entire
district is the grouping itself?

A. Yes. Or it was created using that, yeah.

Q. The portion of paragraph 21 that's above
Figure 3, do you see a sentence that starts "In 2021,
after the release of the 2020 census data"?

A. Yes.

Q. Okay. And it's got a footnote at the end of
that sentence, Footnote 5; is that right?

A. Yes.

Q. And it says "Those results were described in
a paper of which I was a coauthor"; is that right?

A. Yes.

Q. Okay. Can you tell me a little bit about
this paper.

A. Yes. There were five of us, I believe, who
had been collaborating, all folks who were interested
in the Stephenson requirements and interested in being
able to provide those -- the groupings that would be
generated using Dr. Mattingly and Dr. Hershlag's
algorithm in an expeditious way when the data -- the
census data were released.

And the five of us had collaborated on
another document using population estimates just sort

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of trying to look ahead at what the county groupings
might look like.

And so we had, as I said, collaborated on a
previous paper and then collaborated on this paper that
essentially once the county-level population data were
released describing what the groupings would be based
on the assumption that race was not taken into account,
and the paper basically lays out the groupings and
tries to describe them and show them graphically as
well.

Q. Do you know why the assumption was made that
race did not need to be taken into account?

A. I would say that the coauthors had
recognized, for example, in the 2010 cycle that
groupings that had been identified as the optimal
groupings were provided and were not challenged on the
basis of VRA issues within the groupings.

So that was an example of a 10-year period
when the groupings had been generated without taking
race into account, and as I said, to my knowledge, were
not challenged as having any issues with not complying
with the VRA.

And also the VRA piece could produce a
variable that could make it -- that it's an unknown.
If one were to take that into account, I don't think we

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would have been able to produce the paper. Certainly
not with the quick turnaround that we did.

Q. Okay. Can we turn to page 11. I'd like to
talk about Figure 5 of your report, please.

So this shows "Selected enacted 2022 North
Carolina State Senate districts"; is that right?

A. Yes.

Q. Did you use the enacted 2022 state senate
districts as the basis for drawing any of your
demonstrative maps?

A. I'm just considering the way you asked that.
As the basis for drawing them, yes, I did.

Q. Okay. And you included in Table 1 below
Figure 5 statistics for these districts; is that right?

A. Yes.

Q. Okay. I notice that Senate District -- what
was Senate District 2 is not labeled on this map; is
that right?

A. That's correct.

Q. Okay. And you also don't report any
statistics for Senate District 2; is that right?

A. That's correct.

Q. Why did you not include Senate District 2 in
any of your analysis?

A. None of my -- so the numbering changes

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26 (Pages 101 to 104)

slightly. So, for example, the -- and I just want to confirm that my memory is right here.

The district containing one county in Halifax County in the 2023 plan is District 2, whereas in the 2022 plan it's District 3.

And I believe that District 2 in the 2022 plan is the district composed of Lenoir, Craven and Beaufort Counties.

Q. So in Figure 5, it's one of the unlabeled districts here?

A. Yes. And that three-county grouping was not changed or affected or -- none of my demonstration maps involve any of those counties as I recall, so it seemed -- it's part of the enacted plan that is unaffected by any of the demonstration plans.

Q. Okay. But none of your demonstration plans involve any of Pitt or Edgecombe County as well, so why did you report statistics for Pitt and Edgecombe County but not Lenoir, Craven and Beaufort?

A. Good question. Earlier in the report, I believe I point out that the majority black counties that I had identified, we looked at the figure before. I think it's the first figure in report -- yes, Figure 1 -- mentioning that.

So in paragraph 27, I mention that in the

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2022 plan, those counties are assigned to four different districts, namely 1, 3, 5, and 11, none of which is majority black. And see Figure 5.

So I included District 5 as a way of corroborating my statement that the districts containing these majority-black districts are not majority black -- sorry. The districts containing these majority-black counties are not majority-black districts.

Q. And did you use QGIS to create Figure 5 also?

A. Yes.

Q. Okay. Does QGIS allow you to place the names of the counties wherever you like on the map?

A. There is that option, yes. And just for the sake of time, all of the maps in this report were created using QGIS, and I think I say as much in Attachment B.

Q. Okay. Thank you.

Is it your understanding that Vance County does not border Nash County?

A. Yes. It looks like the district label for District 11 obscured the county -- the Franklin County label.

Q. Obscured or is lacking the Franklin County label?

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A. The way the software works is that one layer's label can supplant another. So I would say maybe more accurately the District 11 label has supplanted the Franklin County label on this map.

Q. Okay. So you did not label Franklin County on this map?

A. I would characterize it the way I just did, that the district label supplanted the county label in this particular map, yes.

Q. Okay. But you would agree with me that Senate District 11 as enacted in 2022 is made up of Vance, Franklin and Nash Counties; is that right?

A. Yes. In fact, Table 1 says that explicitly.

Q. And your failure to include Franklin County on this map, does it render it unreliable in any way?

MS. THEODORE: Objection to form.

THE WITNESS: No. I don't agree with that characterization at all.

BY MS. RIGGINS:

Q. Did you choose not to put Franklin County's label on this map?

A. No, I would not characterize it that way.

Q. So was it an error?

A. I honestly don't remember if I -- I may have recognized that the location of the District 11 label

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was in such a place that it had supplanted the county label, but I think there are other maps -- I just looked at Figure 1, for example, where Franklin County is clearly labeled, and as I pointed out, it's in the table below.

But on an 8-and-a-half by 11 piece of paper, sometimes not every label, I think -- I don't know. I don't think I specified anything about that in Attachment B, but --

Q. Because I can easily look at a map of North Carolina and say that's Franklin County; right? So it's not a big deal, in your opinion?

MS. THEODORE: Objection to form.

THE WITNESS: In this instance, I do not feel that the fact that the label for District 11 supplanted the Franklin County label diminishes the validity of this map.

BY MS. RIGGINS:

Q. Can we look at Figure 6 on page 13, please.

A. Yes.

Q. And this is a similar map, but only of the Enacted 2023 State Senate Districts; is that right?

A. That's right.

Q. Okay. And as we noted earlier, there's been renumbering in the region, so Senate District 1 is now

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27 (Pages 105 to 108)

1 in the very northeastern corner of North Carolina; is
2 that right?
3   A. This is the northeasternmost district, yeah.
4 I'll describe it as being the northeastern --
5 northeasternmost district.
6   Q. Okay. And then Senate District 2 goes from
7 Warren County to Carteret County; is that right?
8   A. That's right.
9   Q. Okay. Was there any change to Senate
10 Districts 4, 11, or 5 between 2022 and 2023?
11   A. I don't believe so.
12   Q. And is Senate District 9 also the same?
13   A. I think so.
14   Q. And what was Senate District 2 and is now
15 Senate District 3, though granted, unmarked Senate
16 District 3, also the same from 2022 to 2023?
17   A. That's correct --
18   Q. Okay.
19   A. And -- yes, with the exception of its number.
20   Q. Okay. Geographically made up of the same
21 three counties?
22   A. Correct.
23   Q. Okay. And are Districts 1 and 2 -- we
24 already talked about those earlier. The entire
25 district is the county grouping; is that right?

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1   A. That's right.
2   Q. Okay. Do you know if Senate District 5 is
3 also an entire county grouping?
4   A. I believe it is.
5   Q. Okay. What about Senate District 11?
6   A. Yes.
7   Q. Senate District 4, same thing?
8   A. Yes.
9   Q. And Senate District 9, is that the same
10 thing?
11   A. No.
12   Q. Why not?
13   A. Senate District 9 involves a split county.
14   Q. Sampson County; is that right?
15   A. Yes.
16   Q. And do you denote the other district that
17 Sampson County is split in two in any way on this map?
18   A. On this map, no, but I do reference it in the
19 text.
20   Q. Okay. And then Lenoir, Craven, and Beaufort,
21 that is also a single-district county grouping; is that
22 right?
23   A. That's right.
24   Q. So I'd like to look at page 15, please, which
25 is Figure 7.

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1   Is Primary Demonstration District A outlined
2 in purple in this map?
3   A. Yes.
4   Q. Okay. And we already discussed that you
5 began drawing this district in DRA; is that right?
6   A. I believe that's right.
7   Q. Okay. And you began drawing based on whole
8 counties; is that right?
9   A. Yes. I'm on -- I'm thinking just a few
10 calories would -- and then just if I could take a --
11   Q. I maybe have three or four more questions
12 about this figure, and then I was going to offer to
13 take a lunch/dinner break. Is that okay?
14   A. Yeah, that works.
15   Q. Okay. How did you choose which whole
16 counties went into Demonstration District A?
17   A. I've -- I hesitate to repeat myself, but it's
18 the process we've discussed before. Classic
19 redistricting, you know, trial and error, trying to
20 create a district that meets multiple criteria;
21 population equality, compactness, communities of
22 interest, and in this case, also making it majority
23 black. So just iterative process.
24   MS. RIGGINS: Okay. I lied. I didn't have
25 four questions. We can take a lunch break or dinner

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1 break.
2   (Off the record 12:27 p.m. to 1:01 p.m.)
3 BY MS. RIGGINS:
4   Q. So, Mr. Esselstyn, can you please turn to
5 page 17 of your report. I'd like to look at Figure 9.
6   A. Yes.
7   Q. Okay. And Figure 9 depicts Primary
8 Demonstrative A and then the associated Demonstrative
9 Districts A-C, A-4, A-9, and A-11; is that right?
10   A. Yes.
11   (Discussion off the record.)
12 BY MS. RIGGINS:
13   Q. Okay. And then it appears that Edgecombe,
14 Pitt, Lenoir, Craven, and Beaufort are shaded out, for
15 lack of a better way to put it; is that right?
16   A. Yes.
17   Q. Okay. Why are these five counties shaded
18 differently?
19   A. Well, the title is -- of the figure says that
20 it's showing districts that differ from the enacted
21 2023 plan, and those counties' districts do not differ
22 from the enacted plan in Demonstration Map A.
23   Q. Okay. And is that why Onslow is shaded out
24 also?
25   A. Yes.

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28 (Pages 109 to 112)

Q. And then Onslow County district, it doesn't cede out all the way to the Atlantic Ocean, right, in the enacted plan? It's enclosed at the line; is that right?

MS. THEODORE: Objection to form.

THE WITNESS: The Onslow County district is -- consists of Onslow County.

BY MS. RIGGINS:

Q. Okay.

A. I believe it's a single district. I'm pretty sure.

Q. It is. Okay. When you were drawing Districts A-C, A-4, A-9 and A-11, did you intentionally draw those districts to exclude Edgecombe, Pitt, Beaufort, Craven, and Lenoir Counties?

A. Yes.

Q. Okay. And so District A-2, this lists Carteret County; is that right?

A. That's right.

Q. Okay. And so that's split between District A-2 and A-9; correct?

A. That's correct.

Q. Okay. And Wilson County is split between A-11 and A-4; is that right?

A. That's right.

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Q. Okay. And Sampson County is split between A-4, A-9, and another unnamed district; is that right?

A. It is not shown in Figure 9 because it does not differ from the enacted 2023 plan. It is named elsewhere in the report.

Q. Right. But under Demonstration Map A, Sampson County would be split between three districts; is that right?

A. That's correct.

Q. On Demonstration -- Primary Demonstration District A, looking back if we could just for a minute to Table 15 -- or page 15, Table 3, this has a black voting age population of 51.47 percent; is that right?

A. Demonstration District A, yes.

Q. Okay. And so could you have met either the equal population criteria or the criteria that this district be majority black voting age population without including any one of these counties? Could you just press "delete" to, say, Washington County?

A. I honestly don't know. Just sitting here, as I recall the -- no. That -- I'm pretty sure that I could not, for example, delete Washington County because the population deviation was already pretty close to the threshold.

Q. Is there a particular reason why you included

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Washington County in this district instead of, say, Beaufort County?

A. I think I was generally trying to keep the black vote counties, that community of interest intact.

And I think it's -- Beaufort County, I believe, is not a majority black -- or it's -- yeah. It's not a county that I would identify as one of the black belt counties -- or that I did identify as one of the black belt counties.

Q. I'd like to flip to page 16 and look at Figure 8 for a minute, if we could.

A. I'm there.

Q. So these are the differing county groups that were used in the maps that we just looked at in Figure 9; is that right?

A. That's right.

Q. Okay. And so it looks like the district -- Demonstrative District Primary District A is county grouping 1; is that right?

A. Here the numbers aren't meant to be identifying a county grouping. The numbers are meant to be indicating the number of districts in that grouping.

Q. Okay. But if --

A. Go ahead.

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Q. They're the same counties in the area labeled 1 on Figure 8 as Demonstrative District A, the primary demonstrative district?

A. That's correct.

Q. Okay. And Dr. Mattingly created the groupings on -- the additional grouping on this map; is that right?

A. Yes. Yes.

Q. Okay. Do you have an understanding of how Dr. Mattingly created that alternate county grouping?

A. Generally, yes.

Q. What is your general understanding?

A. My general understanding is that he used the code that allows for the freezing of a subset of counties, and he froze the counties in Demonstration District A as well as Edgecombe and Pitt Counties, and then ran the algorithm with those counties frozen.

Q. Okay. And so there are only two groupings present in Figure 8; is that right?

A. That's right.

Q. Okay. And then you would attempt to create, as you did, five districts out of the second grouping; is that right?

A. That's right. Well, as I've mentioned, one of the districts doesn't change. I left one of the

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29 (Pages 113 to 116)

1 districts identical to the way it was.

2   So really the districts that I was

3 configuring, I wouldn't include the fifth, the one with

4 Lee and Harnett Counties.

5   Q.   Okay. But five districts would now make up

6 this county grouping; is that right?

7   A.   Yes.

8   Q.   Okay. This is a 23-county grouping as drawn.

9 Are you aware of any county grouping in North Carolina

10 currently that makes up that many counties?

11   A.   Off the top of my head, I am not.

12   Q.   Okay. And do you know how many counties

13 there are in North Carolina, Mr. Esselstyn?

14   A.   I do.

15   Q.   Is it a hundred?

16   A.   Yes.

17   Q.   This county grouping represents 23 percent of

18 the counties in North Carolina; is that right?

19   A.   That's right.

20   Q.   Look at the lawyer do math. Thank God it's a

21 hundred counties.

22   Okay. So why is Wayne County missing from

23 this map?

24   A.   I don't agree with the way your question is

25 formulated.

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1   Q.   Okay. Is Wayne County missing a county

2 label?

3   A.   There does not appear to be a label for Wayne

4 County.

5   Q.   Where's the county label for Camden County?

6   A.   It also does not appear to be part of the

7 map.

8   Q.   By "not a part of the map," you mean it's

9 still a county in North Carolina; you just failed to

10 label it in Figure 8?

11   MS. THEODORE: Objection to form.

12   THE WITNESS: I wouldn't characterize it that

13 way.

14 BY MS. RIGGINS:

15   Q.   Is there a particular reason you didn't

16 identify Camden County on this map?

17   A.   GIS software, mapping software in general

18 uses a -- the labeling process involves an algorithmic

19 series of determinations, and there are settings that

20 you can change.

21   And I believe for this map I was using a

22 setting that was trying to avoid crowding of labels or

23 overlapping of labels, and sometimes what the software

24 will do is make the determination that placing the

25 label in sort of the default location would mean it

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1 would be too close to an adjacent label.

2   So it's not like I manually labeled each

3 county here. I relied on the software to place the

4 labels, and apparently the algorithm made the

5 determination that putting those labels in would have

6 been too crowded, and so those counties aren't labeled.

7   But they are clearly labeled in Figure 5 and

8 Figure 1.

9   Q.   So it's possible to label these counties?

10 They just were not labeled in this figure?

11   A.   Yes.

12   Q.   Okay. Would you consider this an error in

13 this figure?

14   A.   No.

15   Q.   Okay. So let's look at Figure 9 again on the

16 next page.

17   So here, Camden and Wayne Counties are

18 labeled, but it appears that the label "Sampson County"

19 has been moved, so it's partially in Bladen County and

20 partially in Sampson County.

21   Did the algorithm do that, or did you do that

22 yourself, Mr. Esselstyn?

23   A.   So I'm just looking around at the map. There

24 are a number of instances where one part of the label

25 overlaps in part a portion of another county.

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1   Q.   Because it's crowded?

2   A.   Yes.

3   Q.   Right.

4   A.   But I would -- the label for Sampson is --

5 the majority of it is definitely within Sampson County.

6 I don't think -- I'm not concerned that a reader would

7 think that that label was applying to Bladen County,

8 which is clearly labeled as Bladen County.

9   As to whether I moved that label, I honestly

10 don't recall.

11   Q.   Okay. But you have the ability to move the

12 labels; right?

13   A.   Yes.

14   Q.   Okay. Because if you look back at Figure 6,

15 the label for Sampson County is in a much different

16 place, but here if you put it in the same place on

17 Figure 9, you would have a hard time seeing the

18 district lines; is that fair?

19   A.   I'm looking back for Figure 6.

20   Yes. If the label for Sampson County was in

21 the same location that it is in Figure 6, it would be

22 probably overlapping with the district line.

23   Q.   So this was probably done, you know, for

24 clarity purposes, so you could still see the district

25 line; is that fair to say?

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30 (Pages 117 to 120)

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MS. THEODORE: Objection to form.

THE WITNESS: That would be a reasonable explanation.

I don't feel comfortable saying that's probably why it was done, but that could be an explanation for why.

BY MS. RIGGINS:

Q. And so we said earlier that Figure 9 shows the five additional districts that would make up the five-county cluster in Figure 8; is that right?

MS. THEODORE: Objection to form.

THE WITNESS: I don't agree with your statement.

BY MS. RIGGINS:

Q. Did you draw the additional -- one, two, three, four -- five districts in Figure 9 in the county grouping identified in Figure 8?

A. I drew the four districts that differ from the enacted 2023 plan.

Q. And you also -- which district does not differ from the enacted 2023 plan?

A. The district including Harnett and Lee and a portion of Sampson.

Q. Okay. So looking at Figure 8, which shows Lee and Harnett Counties, are you aware that this

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five-district county grouping is only available because Pitt/Edgecombe were frozen in addition to Demonstrative District A?

MS. THEODORE: Objection to form.

THE WITNESS: I don't agree with the characterization of your question.

BY MS. RIGGINS:

Q. Did you test out to see what the county groupings would look like with Demonstration District A if you did not freeze Pitt and Edgecombe Counties?

A. I did not.

Q. Okay. So is it possible that the 23-county pod would not be available if Pitt/Edgecombe were not frozen?

MS. THEODORE: Objection to form.

THE WITNESS: Is it possible that the 23-county -- I find that wording a little tricky to follow. Is it --

BY MS. RIGGINS:

Q. I can rephrase.

All right. So you agree with me that Demonstration District A is frozen; correct?

A. Yes.

Q. Okay. And that in addition to that, Dr. Mattingly froze Pitt and Edgecombe Counties;

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correct?

A. For Demonstration Map A groupings, yes.

Q. Okay. Do you know if you would get a different grouping system if Pitt/Edgecombe were not frozen?

A. Different from the one shown in Figure 8?

Q. Yes.

A. I believe that's correct.

Q. Let's please turn to page 18. I'd like to talk about Demonstration District B, please.

A. I'm there.

Q. Did you start drawing Demonstration District B in Dave's Redistricting?

A. I think so.

Q. Okay. And did you export any work product from Dave's Redistricting into Maptitude or QGIS?

A. I honestly don't recall.

Q. Okay. That's fine. It's not a memory test.

How did you -- I know that you started in Dave's Redistricting, but how did you make the determination to include this specific geography in Demonstration District B?

A. I'm trying to just be concise. It's an answer very much similar to the answer I've given before maybe three times, about iterative process,

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trial and error, looking at other possible configurations, weighing different criteria.

Q. Okay. So it looks like this is very similar to Demonstration District A except for Vance County is not in Demonstration B; is that right?

A. There are other -- that is one thing that's different.

Q. Okay. But it includes a lot of the other majority-black counties that you identified; is that right?

A. A number of them, yeah.

Q. Okay. It also includes a portion of Pasquotank County; is that right?

A. Yes.

Q. Okay. Demonstration District B splits Pasquotank County; is that right?

A. Yes.

Q. How did you make the determination as to what portion of Pasquotank County would end up in Primary Demonstration District B?

A. The consideration of multiple factors.

I definitely was trying to keep Elizabeth City intact or mostly intact. It's not possible to keep Elizabeth City entirely intact unless Camden County is included. So -- but trying to keep as much

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31 (Pages 121 to 124)

of Elizabeth county intact as I could while also
keeping VTDs intact.

        This was built out of VTDs, and basically,
the resulting process is kind of the northern part of
the county plus most of Elizabeth City, and I thought
that was a way of dividing the county in harmony with
the various redistricting criteria that I've talked
about before.

        Q. Is all of the portion of Elizabeth City
that's in Pasquotank County located in Primary
Demonstration District B?

        A. All of it? No.

        Q. So Elizabeth City is also split between --
Elizabeth City is split between Demonstrative Primary
District B and then what is, I believe, B-2 in
Figure 11 on page 20; is that right?

        A. Yes. And a small portion of Elizabeth City
in Pasquotank County is Demonstration District B-2.

        Q. Okay. And did the Enacted Senate Plans keep
Pasquotank County whole in 2023?

        A. Yes.

        Q. Okay. Could you have kept Pasquotank County
whole and met the equal population criteria for
Demonstration District B?

        MS. THEODORE: Objection to form.

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        THE WITNESS: When you say the "population
criteria," the population equality criteria?

        BY MS. RIGGINS:

        Q. Yes. I'm sorry. I thought I said equal
population criteria. Perhaps I didn't. I guess that's
why Elisabeth objected.

        Could you, you know, have met the plus or
minus 5 percent population criterion without splitting
Pasquotank County?

        A. I don't think I can say that just off the top
of my head because I didn't -- I don't remember trying
all kinds of combinations using other counties and
other parts of the district. I don't -- I don't think
I can provide an answer to that question. I mean a yes
or no answer.

        Q. And you so you have the same shading on this
map that we talked about earlier -- is that right? --
the green shading?

        A. Yes.

        Q. And this still shows the decennial census
data's black voting age population percent; right?

        A. Yes.

        Q. Okay. So it looks like the southern
southeastern portion of Pasquotank County that is put
into District B-2 has lighter shades of green; is that

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right?

        A. Compared to what?

        Q. Compared to the portion that was included in
Demonstration District B.

        A. I don't agree with the characterization as
you've formulated it.

        Q. Okay. So the outline of Pasquotank County,
it's south of Camden. It's that gray-silver line by
Gates; is that right?

        A. Yes.

        Q. Okay. And that portion of the district, that
VTD is 30 to 39.99 percent black voting age population;
is that right?

        A. Yes.

        Q. Okay. And then directly southeast, the VTD
that borders that in Pasquotank County, that's between
15 and 29.99 percent black voting age population; is
that right?

        A. Yes.

        Q. Okay. And then the green that's obscured by
the district line, do you know what color that is?
What shading?

        A. So there is more than one VTD in there. I
believe there is both the 40 to 49.99 percent as well
as 50 percent and above in that area.

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        Q. Okay. And, in fact, if you flip back to
Figure 6 where Pasquotank County is kept whole, it
shows shading of both the 40 to 49.99 percent range and
the 50 percent and above range; is that right?

        A. I've just gone back to Figure 9, which
presumably --

        Q. Excuse me. Figure 6 on page 13.

        A. Okay. I think I -- I'll look at Figure 6.

        Yes. I think what you said is true.

        Q. Okay. And then if we go back to Figure 10
that we were just talking about, the shading that's
directly below the purple district boundary, that's
15 to 29.99 percent black voting age population; right?

        A. I see two districts that are directly below
the district boundary -- two VTD.

        Q. Yeah. The VTD that's primarily due south.
Not south and west, but south.

        A. Let's say the one that -- you're talking
about the one that extends across from the western side
of the county to the eastern side of the county?

        Q. Yes, the one that spans the whole county.

        A. And it is also south of the district line?
Yes, that appears to be 15 percent to 29.99 percent.

        Q. Okay. And then sort of above that VTD we
were just talking about and to the left of the district

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1   boundary, that VTD is between 30 and 39 percent --

2   A. Correct.

3   Q. -- black voting age population?

4   A. Correct.

5   Q. Okay. And then the final VTD block in

6   Pasquotank County, the southernmost, is between zero

7   and 14.99 percent black voting age population; is that

8   right?

9   A. Yes.

10   Q. Okay. So the only voting tabulation district

11   with 50 percent or more black voting age population is

12   in Demonstration District B in Pasquotank County; is

13   that right?

14   A. I don't know that I agree with the way your

15   question is formulated.

16   I can say that the -- none of the VTDs in

17   Pasquotank County that are in Demonstration

18   District B-2 are above 50 percent BVAP.

19   Q. I believe in paragraph 41 you state that you

20   "Set out to ascertain whether a majority black state

21   senate district could be created wholly within the

22   outer boundary of the county groupings shown in

23   Figure 3 while adhering to traditional districting

24   criteria"; is that right?

25   A. Yes.

1   Q. Okay. So looking back at Figure 3 briefly --

2   it's on page 8.

3   A. Thank you. I'm there.

4   Q. Were you trying to fit Demonstration

5   District B into one of the two county groupings shown

6   in Figure 3 or the county groupings if they were

7   combined together into one group?

8   A. The latter.

9   Q. Okay. So let's turn back to page -- well, we

10   haven't been here yet -- page 19, please, Table 5.

11   A. I'm there.

12   Q. Demonstration District B has a black voting

13   age population based on the decennial census of

14   48.41 percent; is that right?

15   A. Yes.

16   Q. And a black CVAP under the 2016 to 2020

17   five-year ACS Community Survey estimates of

18   50.19 percent; is that right?

19   A. Yes.

20   Q. Okay. So let's turn the page to page 20.

21   Let's talk about -- I'm sorry -- page 21. We can talk

22   about Demonstration District C.

23   A. I'm on page 21.

24   Q. Okay. So am I correct that Demonstration

25   District C contains either whole or portions of the

1   majority black counties identified in Figure 1 with the

2   exception of Edgecombe County?

3   A. I'm just flipping to Figure 1 in the paper

4   copy here to allow for comparison.

5   No.

6   Q. Okay. Which other --

7   A. I'm sorry. Hang on one moment.

8   Sorry, but I spoke too soon. I think the way

9   you presented it, if you indicated that one of them is

10   just partial, then yes, that's correct.

11   Q. Okay. I apologize if I asked you this

12   earlier, Mr. Esselstyn.

13   Does Figure 1 represent counties that are

14   commonly known as the "black belt" in North Carolina?

15   A. When you say does Figure 1 -- so Figure 1

16   shows a lot of counties.

17   Q. But the shaded counties, are those what's

18   commonly known as the "black belt counties," the ones

19   shaded in gray?

20   A. I'm not aware of one particular agreed-upon

21   definition. I think those shaded counties would --

22   most, if not all of them, would probably fit into if

23   people are talking about those counties, but I'm not

24   aware of one sort of authoritative group definition.

25   Q. Okay. All right. Turning back to page 22,

1   Figure 12.

2   A. Twelve is on page 21?

3   Q. Yes. Page 21, Figure 12.

4   A. Okay.

5   Q. How did you determine that these counties and

6   portions of Vance County should go together in

7   Demonstration District C?

8   A. It's an iterative process, trying out various

9   configurations, weighing things like compactness,

10   population equality, communities of interest.

11   In this particular case, as I reference in my

12   rebuttal report, I considered configurations in Vance

13   County that had a higher BVAP than Demonstration

14   District C ultimately, the version shown here, but that

15   divided the municipality of Henderson more.

16   So in that particular area, I definitely was

17   looking at trying to preserve municipalities intact to

18   the extent possible. I think I mentioned compactness

19   earlier.

20   Again, my answer is very similar to ones I've

21   given before.

22   Q. But the city of Henderson is still split

23   between Demonstration District C and then Map

24   District C-11 on Figure 14; is that right?

25   A. Yes. I think something like -- it's in my

rebuttal report. May I look at the rebuttal report?

Q. I'm just asking if it's your recollection that Henderson is still split between the two districts?

A. Yeah, I think something in the neighbor of like 2 percent of the population of Henderson is outside Demonstration District C.

Q. A few minutes ago you talked about communities of interest. So what communities of interest are present in Demonstration District C?

A. I think more than I can name.

Q. Can you name me a couple.

A. Sure. There are municipalities within the black belt counties that are kept whole.

I know I call out the black belt counties, the black belt area of North Carolina as a community of interest that's kept more intact in Demonstration District C, and as well as the other demonstration districts compared to the enacted maps. We've talked about Henderson, the city of Henderson. We've talked about south Henderson in the rebuttal report as well.

As far as municipalities, I believe that Halifax is one -- Halifax is the county name. Sorry. There is a -- I know three decent-sized cities in this district, one of which -- Roanoke Rapids, I think, is

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one that I'm -- anyway, I know that there are three good-sized municipalities that are in this area that I believe are all preserved intact.

Q. So three municipalities in all of -- three pretty large municipalities in all of Demonstration District C, or in Halifax specifically?

A. In Demonstration District C.

Q. Okay.

A. And there are other municipalities. I just -- I know that there are three larger ones that I remember looking at and specifically for -- looking at their boundaries and populations and such.

Q. Do you recall what those three municipalities were?

A. I think Roanoke Rapids is one, and I'm forgetting the names of the other two.

Q. Do you know what the Research Triangle Park is, Mr. Esselstyn?

A. Do I know what it is?

Q. Mm-hmm.

A. Yes.

Q. Do you know that Vance County and Henderson specifically are part of the Research Triangle Park?

MS. THEODORE: Objection to form.

THE WITNESS: I don't know whether or not

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that's the case.

BY MS. RIGGINS:

Q. Okay. Have you ever heard whether Bertie County was part of the Research Triangle park?

A. I'm sorry. Bertie County?

Q. Yes.

A. I have not heard that that I recall. I don't recall hearing that.

Q. Do you believe that Bertie County is part of the Research Triangle Park?

A. I don't have an opinion.

Q. Do you know what the industry is like in Vance County?

MS. THEODORE: Objection to form.

BY MS. RIGGINS:

Q. Sure. Do you know who the top employers are in Vance County?

A. I cannot say off the top of my head right now.

Q. Do you know if the largest employer in Vance County is a private employer?

A. Did you say do I know that it is, or do I know if it is?

Q. Do you know if it is?

A. Off the top of my head, I don't.

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Q. Do you know how large Vance County's largest employer is?

A. Even if I did, which I don't, I'm not sure what -- how -- what kind of quantification you would be seeking, so I think the answer is no.

Q. Are you aware that the North Carolina Chamber of Commerce and the North Carolina Department of Commerce both publish statistics every year that show the counties' largest employers for all 100 counties in North Carolina?

MS. THEODORE: Objection to form.

THE WITNESS: I'm aware that statistics like that are published and provided. As to whether that specific presentation of statistics that you described is provided in the manner you describe, I can't say whether I was aware of that.

BY MS. RIGGINS:

Q. Did you consider when drawing Demonstration District C any specific types of industries that were present in these counties?

A. Yes.

Q. How so?

A. I know that a lot of -- when you say industries, I know that one of the significant employers and forms of work in these counties is

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agriculture as well as -- so both farming and
livestock, livestock-related industries, and that there
are some similarities in terms of crops or types of
livestock that are produced in these areas.

I remember seeing that years ago and seeing
that map, sort of primary crops and primary animals
that are raised. So that is something I was thinking
about keeping together because, as I recall from the
maps that I had seen, that there were kind of
concentrations of similar agriculture and livestock
operations in this area.

Q. Did you consult any of those agricultural or
livestock maps specifically in drawing Demonstration
District C?

A. No.

Q. What about any other demonstration district
that you drew?

A. No.

Q. Do you recall when you last saw an
agriculture or livestock map for this region?

A. Not exactly.

Q. Okay. Do you believe that Vance County has a
primarily agriculture-heavy economy?

A. Primarily agriculture heavy?

Q. Yeah. Do you believe that one of the largest

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industries in Vance County is agriculture?

A. I don't have an opinion one way or another on
that as we sit here. It would not be hard for me to
find that out, but I don't have an opinion off the top
of my head.

Q. Okay. Are there counties in the
Demonstration District C that you had in mind when you
were just testifying about the agriculture and farm
regions?

A. Yes.

Q. Which counties would those be?

A. Warren, Halifax, Northampton, Bertie,
Hertford.

Q. Okay.

A. I just want to turn on a light, and I need to
move away from the headphones to do so. It will take
me less than a minute.

Q. That's fine.

A. Thank you.

Q. So in the list of counties you just gave me,
you didn't mention Pasquotank. Do you happen to know
who the largest employer is in Pasquotank?

A. Off the top of my head, I do not.

Q. Would it surprise you to learn that it's the
federal government?

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MS. THEODORE: Objection to form.
THE WITNESS: I don't -- I wouldn't say it
would surprise me.
BY MS. RIGGINS:
Q. And is that because the areas around
Elizabeth City have a lot of military installations?
A. Is what because?
Q. That it wouldn't surprise you that the
largest employer in Pasquotank County is the federal
government because there are military installations
around Elizabeth City?
A. I -- actually my rationale was more that it's
not uncommon for there to be federal agency presences
of one sort of another in a county. I was not
specifically thinking of military installations.
Q. Did you take into account the location of any
military installations when drawing your demonstrative
districts?
A. I do remember seeing something on a map in
Maptitude, but it's a vague recollection. And
generally if I do see those and it's possible to keep
them intact, that's one of the things I try to do, but,
again, my recollection is hazy.
Q. I'd like to ask you one more question about
Vance County specifically.

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Did you ever consider moving the county label
for Vance County for Demonstration District C so that
it would not obscure the district line?
A. Your question is did I ever consider moving
the label?
Q. Yes.
A. I don't recall.
Q. Because it's hard to see, but I believe --
and please correct me if I'm wrong -- but under the
county label for Vance County, it looks like there's
one or more VTDs that are 50 percent or above black
voting age population; is that right?
A. One or more. Yes, that appears to be true.
It may be easier to see in another map.
Q. Actually, I'll represent to you,
Mr. Esselstyn, it's not, because the label for Vance
County never moves.
MS. THEODORE: Objection to form.
MS. RIGGINS: It wasn't a question.
BY MS. RIGGINS:
Q. Let's turn to Figure 13.
A. I'm sorry. I'm just curious about this.
Q. Well, you can be curious on your counsel's
time or your own time. I'm sorry, Mr. Esselstyn. I'm
on the clock.

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35 (Pages 137 to 140)

1   Can you please turn to page 22.
2   A. Yes. I'm there.
3   Q. All right. So these are -- Figure 13 on
4   22 -- page 22 represents the modified county groupings
5   used in Demonstration Map C; is that right?
6   A. Yes.
7   Q. Okay. And did Dr. Mattingly draw these
8   county groupings for you?
9   A. He generated them.
10   Q. Okay. And Camden and Wayne County labels are
11   also missing from this map; is that right?
12   A. That appears to be true.
13   Q. And did you use the same algorithm we talked
14   about in discussing -- I believe it was Figure 8
15   earlier to generate the labels for these counties?
16   MS. THEODORE: Objection to form.
17   THE WITNESS: I can't say with certainty.
18   BY MS. RIGGINS:
19   Q. Okay. Do you know why Camden and Wayne
20   Counties aren't labeled in this map?
21   A. I think my answer would be similar to the one
22   that I gave before, that there are algorithms that make
23   choices about placing labels, and they can do so in a
24   way to minimize or reduce kind of crowding or overlap.
25   Q. All right. Let's look at Figure 14 on the

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1   next page.
2   A. I'm there.
3   Q. In Figure 14, it looks like you drew District
4   C-2, C-11, and C-4 to -- in addition to Demonstration
5   District C; is that right?
6   A. I believe so, yes.
7   Q. Okay. And Wilson County is split between
8   District C-11 and C-4; is that right?
9   A. That is right.
10   Q. Okay. And then District C-11 is the county
11   that the remainder of Vance County is in, in addition
12   to Demonstration District C; is that right?
13   A. That's right.
14   Q. Okay. All right. We can turn the page to
15   page 24. I would like to look at Figure 15.
16   This is a map of Demonstration District D; is
17   that right?
18   A. That's right.
19   Q. I believe you testified earlier, but please
20   correct me if I'm wrong, that Demonstration District D
21   is a modified version of Demonstration District B; is
22   that right?
23   A. I don't think that's what I said before.
24   Q. Okay. Then why don't you tell me how you
25   drew Demonstration District D.

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1   A. So drawing districts is typically an
2   iterative process that involves trying different
3   combinations and in -- investigating whether different
4   combinations of counties might provide a reasonably
5   configured district that had a higher black CVAP than
6   Demonstration District B.
7   I -- you know, basically this has counties in
8   it that are different from Demonstration District B,
9   but otherwise, they're similar. And, again, always
10   considering things like compactness and preservation of
11   communities of interest, population equality, all of
12   those factors.
13   Q. Okay. And is District D otherwise the same
14   as -- I'm sorry.
15   Is Demonstration District D otherwise the
16   same as Demonstration District B but for the fact that
17   Tyrrell County is included in Demonstration District D,
18   whereas Chowan County is included in Demonstration
19   District B?
20   A. I want to say that Washington also differs,
21   but I'm -- that's --
22   Q. You are correct. You are correct.
23   So it's Washington and Tyrrell are included
24   in Demonstration District D, but they are not
25   included -- that's right -- for population purposes?

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1   All right.
2   A. For population? Well --
3   Q. Sorry. The swap. You had to -- because
4   Tyrrell and Washington are very small population.
5   A. Yeah. And I --
6   Q. Okay.
7   A. For the record, I would not pronounce two of
8   those counties the way you did, but that's okay. I
9   know which ones you're talking about.
10   Q. How do you pronounce Chowan County?
11   A. "Chowan."
12   Q. Oh, interesting. I deposed somebody from
13   there earlier this week, and they said it the way I
14   said it, so -- how do you pronounce Tyrrell County?
15   A. "Tyrrell."
16   Q. People from the east and people from the west
17   of North Carolina, very different pronunciations, just
18   like the barbecue.
19   All right. So can we compare -- you might
20   want your paper copy for this. So I'd like to compare
21   Table 8 with Table 5 if we could.
22   A. Okay. Table 5. Maybe you can speed me up.
23   What page is it on?
24   Q. Page 19.
25   A. Yes. Okay. I have Table 8 in front of me on

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1   the screen and Table 5 in front of me on paper.
2   Q. Okay. Perfect.
3   So the black voting age population for
4   Demonstration District D in Table 8 is 49.22 percent;
5   is that right?
6   A. For Demonstration District D, yes.
7   Q. Okay. And is that about 8/10 of a percent
8   higher than the BVAP level of Demonstration District B
9   in Table 5?
10   A. Roughly.
11   Q. And the black CVAP of Demonstration
12 District D in Table 8 is 50.81 percent; is that right?
13   A. Yes.
14   Q. And that's using the 2016 to 2020 five-year
15 ACS Survey estimates; is that right?
16   A. That's correct.
17   Q. Okay. And that's about 6/10 of a percentage
18 higher than Demonstration District B's black CVAP
19 percentage; is that right?
20   A. Roughly, yes.
21   Q. Okay. The Reock score for Demonstration
22 District D, it's lower than Demonstration District B;
23 is that right?
24   A. Yes.
25   Q. Okay. And the Polsby-Popper score for

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1   Demonstration District D is also lower than
2   Demonstration District B; is that right?
3   A. Yes.
4   Q. Okay. So is it fair to say that
5   Demonstration District D is less compact than
6   Demonstration District B under these two measures?
7   A. These scores for those two measures are lower
8   per district for Demonstration District D than for
9   Demonstration District B.
10   Q. And is it your understanding that for both
11 Reock and Polsby-Popper, the closer you are to one, the
12 more compact the district is, generally?
13   A. Yes.
14   Q. Okay. So Demonstration District D, using the
15 Reock and Popper methods, are less compact than
16 Demonstration District B?
17   A. Based on those two measures, yes.
18   Q. And what are some other measures of
19 compactness?
20   A. Schwartzberg, area divided by a convex hull.
21 Split edges. Some people just use a -- there's like a
22 length-width test. There's a basic perimeter test. I
23 think Maptitude offers close to ten or a dozen
24 different options.
25   Q. All right. You only reported Reock and

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1   Polsby-Popper measures of compactness throughout your
2   May 2024 report; is that right?
3   A. That's right.
4   Q. Now, I do have one last question on
5   Demonstration District D. Pasquotank County is split
6   here again; is that right?
7   A. That's right.
8   Q. Is that the same split that's present in
9   Demonstration District B in Pasquotank County?
10   A. That's right.
11   MS. THEODORE: Sorry. Can we go off the
12 record for a sec.
13   MS. RIGGINS: Sure.
14   (Off the record 1:59 p.m. to 2:06 p.m.)
15 BY MS. RIGGINS:
16   Q. Okay. Mr. Esselstyn, I would like to turn to
17 your August rebuttal report, which we'd like to mark as
18 Exhibit 2.
19   We transmitted that through the chat earlier.
20 Do you still have a copy?
21   A. I do.
22   Q. And you have a paper copy in front of you as
23 well; is that right?
24   A. That's right.
25   Q. Okay. So on paragraph 3, which spans pages 1

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1   and 2, you noted that in your initial report you relied
2   upon the ACS five-year estimates from 2016 through
3   2020; is that right?
4   A. That's right.
5   Q. Then you note that "On June 24, 2024, the
6   redistricting data had made available disaggregated
7   data from the Census Bureau's 2022 CVAP calculation
8   which reflects five-year estimates from 2018 to 2022";
9   is that right?
10   A. I think you said the word "calculation" where
11 I wrote "tabulation."
12   Q. Tabulation. Okay. That's fine.
13   So for your rebuttal report, did you use the
14 five-year estimates from 2018 to 2022?
15   A. I did.
16   Q. Okay. And so you acknowledge that the
17 Redistricting Data Hub published this disaggregated
18 data on June 24, 2024; is that right?
19   A. That's right.
20   Q. And that was three weeks before your report
21 was due in this case; is that right?
22   MS. THEODORE: Objection to form.
23 BY MS. RIGGINS:
24   Q. Correct?
25   A. I have learned since the submittal of this

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37 (Pages 145 to 148)

report we're looking at now, the report submitted at
the end of August. So only within the last week was I
aware that there was a deadline other than the May
deadline.

Q. Okay. Do you know when the five-year ACS
estimates were first published?

MS. THEODORE: Objection to form.

THE WITNESS: Do I know when the five-year
ACS estimates were first published?

BY MS. RIGGINS:

Q. From 2018 to 2022?

A. Not exactly.

Q. Do you think it was close in time to
June 24th?

A. I suppose it depends. I studied geology as
an undergraduate, so "close in time" on it -- sorry.

Q. Do you think it was within a month of
June 24, 2024?

A. I'm not -- I'm not certain. Possibly within
a month or two.

Q. Do you generally --

A. When you're talking about the -- you're
talking about the five-year estimates?

Q. For 2018 to 2022.

A. Yeah. I believe it was sometime in May,

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but --

Q. Do you generally?

A. -- earlier in the spring. Yes. Sorry. Go
ahead.

Q. Do you generally keep up with new census data
releases?

A. The Census releases a ton of data, so I would
say I keep up with the ones that are of particular
interest.

Q. And are the five-year ACS Survey results like
the 2018 to 2022 estimates something that's of
particular interest to you?

A. Yes.

(Exhibit 3 Marked for Identification.)

BY MS. RIGGINS:

Q. I would like to transmit through the chat
something I would like to mark as Exhibit 3. It's the
2022 CVAP publication data.

A. Okay. I see it. I am downloading. I am
opening the PDF.

Q. Have you ever seen this document before,
Mr. Esselstyn?

A. So this is a PDF, and I don't think I've ever
seen this PDF before. This appears to be similar to
the information from a website, and the information at

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the top would suggest that it's a website.

Q. I'll represent to you, Mr. Esselstyn, because
I can't mark as an exhibit an interactive website, that
this is a print-to-PDF of the official U.S. government
website, and you can -- you know, it's from the census
data.

And if you go to the last page, the very
bottom, do you see that it says "Page Last Revised -
January 23, 2024"?

A. Yes.

Q. Okay. And above that directly there are four
bullets, the second of which from the top says "CVAP
2018 through 2022, five-year ACS Data - CSV Format."
Do you see that?

A. Yes.

Q. Okay. So the 2018 to 2022 ACS data with CVAP
was available January 23, 2024, on the Census Bureau's
website; is that right?

A. That's what this page seems to represent that
is -- again, I mentioned that I wasn't confident in my
memory. I don't think -- yeah, the --

Q. That's fine. It's not a memory test.

A. -- that's what this appears to represent.

Q. Okay. And then, so the data wasn't
disaggregated by RDH until June of 2024, about five

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months later.

So did you make any attempt to disaggregate
this CVAP data published directly by the ACS between
its publication date on January 23rd and the date that
your expert report was due on May 31, 2024?

A. I did not.

Q. Do you know how to?

A. Yes.

Q. Okay. And are you aware that Dr. Collingwood
was using disaggregated ACS data in other cases in
March of 2024?

MS. THEODORE: Objection to form.

THE WITNESS: And I apologize, but -- I
answered your previous question yes. I would like to
qualify that, I am aware of a methodology for doing so,
or I guess technically two methodologies for doing so.
So I can -- I have, yes. I'll leave it at that.

And then I'm sorry. You asked another
question about whether I was aware of Dr. Collingwood
having used disaggregated data. Could you repeat that
question.

BY MS. RIGGINS:

Q. Sure. Let's just move on.

Did you ever -- in any of the cases that you
were a testifying expert in that we talked about

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earlier, did you ever disaggregate ACS data yourself?

A. Not in the Georgia case. I might have going back to the municipal annexation cases.

Q. Those weren't redistricting cases, were they?

A. They were not.

Q. Okay. All right. So turning back to paragraph 4 in your August report, which is on page 2, you indicate that you updated the black CVAP percentages in your Demonstration Districts B and D; is that right?

A. I'm just parsing this carefully because I want to make sure I'm answering your question carefully.

The text in this paragraph is talking about calculations using the more recent tabulation.

Q. Okay. So to answer my question, you retabulated the percentage of black CVAP using the new updated 2018 to 2022 ACS estimates; is that right?

A. That's right.

Q. Okay.

A. I didn't -- your previous question seemed to ask if I specifically state that in paragraph 4, so --

Q. And you state in paragraph 4 that "For both Demonstration Districts B and D, the black CVAP percentages were lower using the 2022 tabulation data";

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correct?

A. Yes.

Q. Okay. And, in fact, in the case of Demonstration District B, the black CVAP percentage fell below 50 percent using the new five-year 2022 estimates; is that right?

A. The black CVAP percentage for District B, correct.

Q. Is it your intention to still offer to the Court Demonstration District B as an alternative district even though it does not meet the 50 percent threshold under either a black CVAP or a black voting age population?

MS. THEODORE: Objection to form.

THE WITNESS: I believe I state in the report that it is no -- it's not a majority black CVAP district according to the more recent CVAP tabulation.

BY MS. RIGGINS:

Q. So are you withdrawing it as a demonstration district moving forward?

MS. THEODORE: Objection to form.

THE WITNESS: I don't state anything in my report to indicate that.

BY MS. RIGGINS:

Q. But Demonstration District B no longer meets

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the requirement of being a 50 percent or more black citizen voting age population that you state was one of your goals; correct?

A. That's correct.

Q. Okay. And in exchange, it looks like you now present an additional Demonstration District E with a black CVAP above 50 percent using the 2022 tabulation; is that right?

A. I don't agree with the first part of your question.

Q. You present now in that you present an additional district?

A. Yes. You said "in exchange."

Q. Okay.

A. I agree that I present an additional district.

Q. Okay. And you could have drawn this Demonstration District E at any point after the release of the 2022 ACS data in January; is that right?

A. I don't agree with that characterization.

Q. The 2018 to 2022 ACS data was released in January of 2024; is that right, Mr. Esselstyn?

A. That is what the most recent exhibit that you've shown appears to present.

Q. Okay. And do you have any reason to believe

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that I cannot accurately print out something from the Census Bureau's website?

MS. THEODORE: Objection to form.

THE WITNESS: We haven't known each other very long. I don't know how to answer that question.

MS. RIGGINS: Can we go off the record?

(Off the record 2:20 p.m. to 2:22 p.m.)

BY MS. RIGGINS:

Q. Mr. Esselstyn, do you have any reason to believe that Exhibit 3 as it was transmitted through the chat is not a true and accurate printout from the Census website?

A. No.

Q. Okay. And that printout shows the ACS 2018 to 2022 data was published in January of 2024; is that right?

A. It appears to.

Q. Okay. And so if you presented an additional Demonstration District E using the 2022 -- 2018 to 2022 ACS data, you could have done that at any time after it was published; is that right?

A. I don't think that's right.

Q. Is it because you needed the RDH disaggregation to draw your demonstrative districts?

A. Correct.

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39 (Pages 153 to 156)

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Q. Okay.

A. I feel that the RDH disaggregation is the most recognized source for doing that and has a robust, recognized methodology.

Q. Okay. All right. So I'd like to look at page 6 of your rebuttal report, please.

And it might be easiest if you take out pages 6 and 7 of your rebuttal report because I'm going to ask you to compare to the 2016 to 2020 data that's present in your initial report.

If we go to page 15 of your May report, I'm looking at Table 3, the black reported CVAP decrease using the new 2018 to 2022 data. I'm comparing Table 3 to -- in your original report to Table 3-A in your rebuttal report.

A. Yes.

Q. And let's turn to page 19 in your May report and page 7 in your August report.

So we've already talked about Demonstration District B. The BVAP there lowered below 50 percent -- the CVAP, I'm sorry -- lowered below 50 percent; is that right?

A. Black CVAP?

Q. Yes. Okay. And then Table 6-A, can we compare that to the -- to Table 6 on page 21 of your

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August report?

A. Yes.

Q. Did the black CVAP lower here as well using the 2022 data?

A. Yes, the percentage is lower.

Q. Okay.

MS. THEODORE: You mean Table 6 of the May report, not the August report; right?

MS. RIGGINS: Yes. It's Table 6-A, and Table 6 of the May report.

BY MS. RIGGINS:

Q. And then looking at Table 8 in your May report, which is on page 24, and Table 8-A on page 7, did the black CVAP percentage lower there also?

A. 50 -- sorry. The answer is yes.

Q. Let's look at page 10 of your August report, please.

A. Just a moment.

Okay. I'm on page 10.

Q. All right. So that's Figure E, Demonstration Map -- Figure 1, Demonstration Map E; is that right?

A. Yes.

Q. Okay. How did you start drawing Demonstration Map E?

A. I think the starting point for this was

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Demonstration District D, using that as a starting point and then moving from there.

Q. Okay. And in moving from there, you now include all of the portion of Elizabeth City located within Pasquotank County in Demonstration District E; is that right?

A. All of the populated portion of Elizabeth City.

Q. In Demonstration District E; is that right?

A. Yes. Yes.

Q. Okay. And --

A. Yes. I think what you said -- you limited it to Pasquotank County. I just wanted to clarify that it was not including the portion in Camden County.

Q. It's unhelpful that Elizabeth City is split between two counties.

All right. And the 2022 black CVAP of Demonstrative District E is higher than the 2022 black CVAP of Demonstration District D; is that right?

(Reporter clarification.)

BY MS. RIGGINS:

Q. Is the 2022 black CVAP in Demonstrative District E higher than the 2022 black CVAP of Demonstration District B -- I'm sorry -- D?

A. Yes.

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Q. Okay. Did you make any other changes to Demonstration Map E from Demonstration Map D other than including all of Elizabeth City located in Pasquotank County in Demonstration District E?

A. Yes.

Q. What other changes did you make between Demonstration Districts D and E?

A. There is a VTD -- in fact, you may remember we spoke about this specific VTD earlier today -- that is included in its entirety in Demonstration -- Demonstration District E that was not in Demonstration District D.

It's -- of the three we discussed in southern Pasquotank County, it's the northern one of those three. So that is included, and parts of that are not within the Elizabeth City incorporated area. They're not -- it's not Elizabeth City corporate limits.

And then on the northern and eastern side of the city, there are changes made that were in addition to the inclusion of the Elizabeth City population, basically. Yeah.

Q. So now it looks like Demonstration District E, there's a small portion northeast-ish of the district line with Elizabeth City on the border with Camden that is now not included in District E,

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whereas that portion of the district it looked like

followed the county line in Demonstration District D;

is that right?

A. I think that's a fair characterization, yes.

Q. Okay. All right. And you report compactness

scores for Demonstration District E; is that right? On

the next page?

A. I see them on page 10, which is the page that

I was on, so yeah.

Q. And they're also on page 11 compared to the

enacted district?

A. Oh, okay. The comparison, yes, I see. I was

just looking at the last two columns in Table 9, which

are compactness scores, but yes, there's -- yes.

Q. And is District -- do you know if District E

is more or less compact than District D?

A. I've still got Table 8-A in front of me, and

the orientation is pivoted, so I just want to make sure

I'm looking at this correctly.

    The scores are the same for Demonstration

District D and Demonstration District E.

Q. And you calculated the split VTDs in the same

manner that we talked about earlier when we talked

about your Attachment J; is that right?

    MS. THEODORE: Objection to form.

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THE WITNESS: I would say that I generated

the statistics for split VTDs using Maptitude similar

to the way that I did for the -- yes, in the May

report.

BY MS. RIGGINS:

Q. Okay. So I'd like to turn back to page 4 for

a minute, if we can, of your August report,

paragraph 7.

A. I'm there.

Q. And in paragraph 7, you state that "The

American Community Survey five-year estimates are

considered the authoritative source for analysis like

mine looking at race and/or ethnicities as well as

citizenship"; is that right?

A. That's right.

Q. Okay. And then you say "These data don't

offer the same level of granularity or precision as the

data from the decennial census, which offers no

citizenship information, but they are considered the

best available for this purpose and are widely used";

is that right?

A. That's right.

Q. Okay. So why do you say that the ACS

five-year estimates are best available and widely used

for this purpose?

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A. I am not aware of any alternative source that

is considered to have the same level of reliability

and, you know, having the imprimatur of the Census

Bureau. As I said, I am -- I'm not aware of any

alternative dataset that is commonly used and relied

upon in these types of cases or this type of analysis.

Q. You also drew demonstration districts to

satisfy Gingles 1 in the Raffensperger case in Georgia

earlier this decade; is that right?

A. That's right.

Q. Okay. Did you use ACS data in any of those

reports?

A. No.

Q. Why not?

A. There was not any -- I was not asked to

generate any analysis of CVAP numbers.

Q. Okay. Would you agree with me that in both

the Raffensperger case and in this case, you're drawing

demonstrative districts in an attempt to satisfy the

Gingles 1 requirement?

A. In an attempt to satisfy the Gingles 1

requirement. I would say that I am -- yes, the

demonstration districts were drawn in order to show

that districts meeting the Gingles 1 precondition can

be drawn.

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Q. Okay. And in your August report, are you

representing that the ACS five-year estimates are the

best available for the purpose of offering

demonstrative districts in support of Gingles 1 --

    MS. THEODORE: Objection to form.

BY MS. RIGGINS:

Q. -- used?

    MS. THEODORE: Sorry. Sorry to interrupt.

Objection to form and to the extent it calls

for a legal conclusion.

    THE WITNESS: Could you repeat your question,

please.

BY MS. RIGGINS:

Q. I'll rephrase.

    So you state here in paragraph 7 that "The

American Community five-year estimates are considered

the best available for this purpose."

    And we talked -- isn't that right, in

paragraph 7?

A. That sentence talks about this purpose. The

previous sentence refers to the analysis that's looking

at both race and citizenship -- race and/or ethnicity

as well as citizenship.

Q. Did you look at racial data when you drew

demonstrative districts in Georgia?

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1   A. Yes.

2   Q. And you looked at the decennial 2020 census

3   data in the Georgia case; is that right?

4   A. Yes.

5   Q. You did not --

6   A. There are many Section 2 cases where CVAP

7   data is used either instead of or in addition to

8   decennial census data.

9   Q. Have you been a testifying expert in any of

10 those cases?

11 A. The only one that I think I could answer yes

12 to is this one. I haven't testified yet, but I'm

13 prepared to be a testifying expert, and maybe what I'm

14 doing now is considered testimony.

15 Other than this case, I have not been a

16 testifying expert in a redistricting case that used

17 CVAP data.

18 Q. And the only other Section 2 case that you've

19 been a testifying expert in was in the Raffensperger

20 case; right?

21 A. That's right.

22 Q. And so the only other Section 2 case that

23 you've been a testifying expert in, you declined to use

24 the American Community Survey five-year estimates; is

25 that right?

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1   MS. THEODORE: Objection to form.

2   THE WITNESS: I was not directed to provide

3   CVAP numbers.

4   BY MS. RIGGINS:

5   Q. Were you directed to provide CVAP numbers

6   here by anyone?

7   A. Yes.

8   Q. Did you in Georgia when you testified in the

9   Raffensperger opinion of your own accord say I want to

10 use ACS data because it's the best available for this

11 purpose?

12 MS. THEODORE: Objection to form.

13 THE WITNESS: Again, I'm going to -- there's

14 that sentence that says "the best available for this

15 purpose," and I think "this purpose" is representing --

16 referring back to the previous sentence which talks

17 about analysis looking at race and ethnicity as well as

18 citizenship.

19 And in the Raffensperger case, the

20 citizenship piece was not something I was asked to

21 examine. Had I been asked to examine citizenship and

22 percentages in the citizen voting age population, this

23 is the data I would have used.

24 BY MS. RIGGINS:

25 Q. Do you have any understanding of why you were

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1   asked to use citizen voting age population here?

2   MS. THEODORE: Only if you can answer without

3   revealing our conversations.

4   THE WITNESS: Then I have nothing to say.

5   BY MS. RIGGINS:

6   Q. Okay. I think we've talked about this

7   earlier, but the ACS five-year Survey results, these

8   are estimates; is that right, Mr. Esselstyn?

9   A. Yes.

10 Q. Okay. Do you know about how many people the

11 ACS Survey initially contacts every year?

12 A. Initially contacts?

13 Q. Mm-hmm.

14 A. Off the top of my head, no.

15 (Exhibit 4 Marked for Identification.)

16 BY MS. RIGGINS:

17 Q. I would like to mark Exhibit 4 and transmit

18 through the chat the National Sample Size document,

19 which I will represent to you is a print-to-PDF from

20 the Census website.

21 A. Okay. I see it. Downloading it. It's

22 downloaded. I am opening it up.

23 I can see it.

24 Q. Okay. And for years 2021 through 2023, it

25 appears that there were approximately 3.5 million

167

1   initial addresses selected under the "Housing Units"

2   category; is that right?

3   A. That's right.

4   Q. Okay. And for "Group Quarters," it appears

5   there were between 140 and roughly 153,000 people

6   selected; is that right?

7   A. Roughly.

8   Q. Okay. Number of initial addresses selected

9   in 2020 for housing units is lower; is that right?

10 A. Lower than?

11 Q. The numbers for 2021 through 2023?

12 A. Yes.

13 Q. Okay. It's roughly 2.87 million; is that

14 right?

15 A. Yes.

16 Q. Okay. And it looks like in 2020,

17 approximately 1.4 million final interviews were

18 conducted, is that right, for the housing units?

19 A. Yes.

20 Q. And for 2022, it looks like that number is

21 almost 2 million final interviews conducted for the

22 housing units; is that right?

23 A. Yes.

24 Q. Okay. And do you see for the "Group Quarter"

25 section of the chart, you've got three columns,

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42 (Pages 165 to 168)

1 "Initial Sample Selected, Final Actual Interviews" and
2 then something called "Final Synthetic Interviews."
3   Do you see that?
4   A. Yes.
5   Q. Do you know what a "final synthetic
6 interview" is?
7   A. I've seen the term before, and off the top of
8 my head I'm not remembering at this moment, but there's
9 a note there that I could look at.
10   Q. Sure. And if you look at -- it's the first
11 note at the bottom, the second sentence, it says
12 "Synthetic interviews were created by imputing the
13 characteristics of interviewed group quarters persons
14 into group quarters facilities that were not in the
15 sample that year or period"; is that right?
16   A. That's what that sentence says, yes.
17   Q. Okay. So the synthetic interviews were not
18 interviews conducted in that period of actual
19 individuals; is that right?
20   A. Could you restate the question -- sorry, not
21 restate. Just repeat.
22   Q. Sure. So the synthetic interviews are not
23 interviews with actual people; is that right?
24   A. I think -- I think that is accurate.
25   Q. And let's just use 2022 as an example. So

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1 that roughly 3.5 million initial addresses selected
2 number for 2022, do you know about how many addresses
3 were selected for North Carolina?
4   A. I don't.
5   (Exhibit 5 Marked for Identification.)
6 BY MS. RIGGINS:
7   Q. Okay. Let's transmit what I'd like to mark
8 as Exhibit 5 through the chat, and I'll represent to
9 you, Mr. Esselstyn, that these are the ACS -- nope,
10 that's not the sample.
11   I want to represent to you something that I
12 don't know what it is.
13   Okay. The sample is not -- should be the one
14 that just transmitted, the North Carolina sample size.
15   A. Okay. Should I download the other one too?
16 Okay.
17   Q. We'll get to it probably in a little bit. If
18 it'll cause you confusion, feel free to delete it. I
19 just deleted it out of the chat.
20   A. Okay. No, I've already got it and I don't
21 think it's going to cause me any confusion.
22   Okay. I'm looking at the one called
23 "North Carolina Sample Size."
24   Q. Okay. And so for the year 2022, do you see
25 that roughly 110,000 initial addresses were selected?

170

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1   A. Yes.
2   Q. And of that, around half of that number,
3 about 60,000 had final interviews conducted; is that
4 right?
5   A. I wouldn't call that about half, but around
6 61,000. Sure.
7   Q. Okay. Do you know approximately how many
8 people there were in North Carolina according to the
9 2020 decennial census?
10   A. Approximately, yes.
11   Q. How many?
12   A. 10 million.
13   Q. Are you aware of any ACS source that
14 publishes data for initial addresses selected at a
15 smaller level than statewide, like by county?
16   A. Could you repeat the question, please.
17   Q. Sure. Are you aware of any ACS data that
18 reports the addresses or individuals selected for
19 survey based on the county they live in?
20   A. I am not aware of such a publication or
21 dataset, but that's -- yeah. I'm not aware of what you
22 describe.
23   Q. So would you agree with me that we don't know
24 how many people the ACS might have surveyed in Bertie
25 County in 2022?

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1   A. What do you mean by "we"?
2   Q. Sitting here today, you and I do not know
3 that?
4   A. I can say that I don't know that.
5   Q. Okay. Are you aware of any ACS publication
6 that would show the number of houses or individuals
7 surveyed in Bertie County in 2022?
8   A. I am not aware of such a publication.
9   Q. Okay. Nationally, do you know what the U.S.
10 response rates are to the ACS survey?
11   A. Not off the top of my head.
12   (Exhibit 6 Marked for Identification.)
13 BY MS. RIGGINS:
14   Q. Okay. We'll transmit what we'll mark as
15 Exhibit 6 through the chat, and these are the U.S.
16 response rates according to the Census website.
17   Let me know when you can see that,
18 Mr. Esselstyn.
19   A. I am downloading it.
20   And I have it open.
21   Q. And so in 2022, the response rate was 84.4;
22 is that right?
23   A. Yes.
24   Q. For the --
25   A. Yes.

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43 (Pages 169 to 172)

Q. For the housing units?

A. Yes.

Q. Okay. And that's fairly consistent with the response rate for 2021 and 2023, isn't it?

A. Fairly consistent, yes.

Q. Okay. What was the response rate in 2020 according to this document?

A. 71.2.

Q. And before 2019 -- so from 2020, which is the first year there's data, through 2018 the response rates appear to be the majority of the time above 90 percent; is that right?

A. I was a little confused. I thought you were saying that 2020 was the first year there was data, but I think I understand what you're asking.

Q. Yeah. So for the years --

A. In the years prior to 2019, it does appear that response rates were typically, though not universally, above 90 percent.

Q. But since 2019, the response rates have been below 90 percent; is that right?

A. Since 2019, yes.

Q. Do you have any reason to believe that North Carolina's response rates are materially different than the national averages?

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A. Sitting here now, I don't have reason to say they would be similar or dissimilar.

Q. Okay. Well, we can show you the North Carolina-specific response rates, which is -- we're transmitting it through the chat again, but that's what you had earlier. It might be easier to download it.

A. This is "ACS Response Rates, NC"?

Q. Mm-hmm.

A. Okay. I have it open.

Q. And the response rates for North Carolina are fairly similar to the national average; is that right? A little bit higher for 2021 and 2022?

A. And 2023, it looks like, but yeah, fairly similar.

Q. And then the North Carolina-specific response rate is 71.6 for 2022; is that right?

MS. THEODORE: Objection. I think you meant 2020.

BY MS. RIGGINS:

Q. I'm sorry. For 2020?

A. The response rate for 2020 in North Carolina appears to be 71.6.

Q. Okay. Do you know how the ACS Survey handles nonresponses to specific ACS Survey questions?

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A. It's something that I read about and have been aware of, but I can't remember enough of that as I sit here to formulate an answer.

Q. Does the term "item allocation" or "item assignment" sound familiar to you?

A. It does ring a bell.

(Exhibit 7 Marked for Identification.)

BY MS. RIGGINS:

Q. Let's go ahead and transmit what I'd like marked as Exhibit 7 through the chat.

And I'll represent to you, Mr. Esselstyn, that while you're getting this open, this is a printout from the Census website called -- the section is called "Item Allocation Rates Definitions"?

A. Okay.

Okay. I have it in front of me.

Q. Okay. And do you see at the top bolded bullet, we'll call it, Number 1 says "What is item nonresponse?"

A. Yes.

Q. Okay. And do you see that the ACS considers failing to provide an answer to a question as an item nonresponse?

A. Yes.

Q. Okay. And in the last sentence of that

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bullet, "The ACS also considers invalid answers as item nonresponse." Do you see that?

A. I do.

Q. Do you have an idea as to what an invalid answer is?

A. I think so.

Q. What do you think an invalid answer is?

A. Something where the answer that was provided is not within the domain of appropriate responses for the question or item. So, for example -- well, that's the sort of general description I would give.

Q. So maybe if someone answered the race question as "Female," that would be an example of an invalid answer?

A. Okay.

Q. Would you agree with me that that would be an example of an invalid answer?

A. When you say "the race question" --

Q. If there's a question that asks "What is your race?" and someone wrote "Female," would you consider that to be an invalid answer?

A. I know there's an "Other" category for race. I honestly -- it's not a standard answer. I don't -- I can't say for sure whether that would be considered invalid or just in that instance would be classified as

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44 (Pages 173 to 176)

"Other."

I know people put "Human." I am aware of folks who write in "Human" in order to say that they're human race. I don't know if that's considered -- I honestly don't know if that's classified as invalid or just "Other."

So your particular example, I'm not sure.

Q. And then Bullet 2 on this page says "How does the ACS correct for item nonresponse?"

Do you see that?

A. Yes.

Q. Okay. And it looks like there are two imputation methods, assignment and allocation; is that right?

A. Yes.

Q. Okay. And for assignment, it appears that the ACS fills in the appropriate -- what they deem to be the appropriate response based on implications created in response to the same survey; is that right?

A. I'm sorry. I'm struggling to read this at the same time as listening to your question, so why don't I --

Q. Why don't you read this and let me know when you're done, just Bullet 2.

A. All of Bullet 2?

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Q. Yes.

A. Okay.

Q. Okay. So for assignment, would you agree that the ACS is implying what the missing response should be based on responses to other questions within the same survey?

A. I wouldn't use the word "implying." It says that one response can imply the value for a response. I don't think that the Census Bureau is implying data.

Q. What's the difference between "implying" and "imputing," in your expert opinion?

A. I would say implying is when one value suggests an appropriate value for another question. So that's -- the value is suggesting or presenting a certain appropriate value for another question.

Imputation is the actual generation or insertion of data according to the implication that I just described.

Q. Okay. And is that what it appears the ACS is doing with the assignment method? They're imputing a response to questions that are left blank that's implied by the value of another question?

A. Either left blank or an invalid answer was provided. I think that is a fair characterization.

Q. Okay. Do you know if the ACS publishes any

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data on the number of questions that they assign answers to based on the assignment portion of nonresponse?

A. Sitting here, no, I can't say whether they do or they don't.

Q. Have you ever seen any data on how many answers in an ACS Survey are assigned through the assignment process?

A. I don't recall.

Q. And the second way that the ACS corrects for item nonresponse is allocation; is that right?

A. That's what this document is indicating.

Q. Okay. And that's where, in colloquial terms, the ACS uses statistics to fill in missing responses using the data gathered by the next-nearest neighbor; is that right?

A. This document references nearest neighbor matrices, and I think that's different than necessarily going to a -- the specific nearest neighbor. My understanding is that nearest neighbor matrices would include multiple neighbors.

Q. Okay. So in allocation, the ACS is filling in blank answers using data from either individuals within the same household or from the nearest neighbor matrices; is that right?

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A. I think that's a fair characterization, yes.

Q. Do you know if the ACS publishes any item allocation rates?

A. Sitting here now, I can't say with confidence whether they do or they don't.

(Exhibit 8 Marked for Identification.)

BY MS. RIGGINS:

Q. And we'll go ahead and transmit through the chat, and I'd like to mark this as Exhibit 8, the ACS Item Allocation Rate.

This is a printout for item allocation rates for the years 2018 through 2023 nationwide published on the Census website.

Let me know when you have that open.

A. Okay. I have it open.

Q. Okay. And so unfortunately -- I didn't want to manipulate any of the printouts, but the column headers are contained on the first page, so that's "Item," and then there are five years in descending order in the next five columns from 2023 down to -- on the left-hand side to 2019 on the right-hand side.

Do you see that?

A. Yes.

Q. Okay. And then on the next page, page 2, the category -- the top category "Overall housing

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45 (Pages 177 to 180)

allocation rate," and it ranges from 5 percent in 2022, which would be the second numbered column, to 4.7 percent in 2019.

Do you see that?

A. Yep.

Q. And just for the record, I'm not asking you about 2023 because I know you didn't have that data available to you, so I don't think that's fair game.

All right. And then the overall person allocation rate for 2022 ranges from 13.4 percent in 2022 to 10.6 percent in 2019; is that right?

A. Well, there's a higher value than 13.4. So it's not -- when you say it ranges from 13.4 to 10.6, there's a value that is outside that range.

Q. Okay. And so in 2021, it was 13.5 percent; is that right? It's higher?

A. That's right.

Q. Okay. Let's look at page 4 of this document. Do you see the bold header --

A. I'm sorry. Hang on one second.

Okay. Yes, I think I'm looking at page 4.

Q. Okay. Do you see middle-ish part of the page a bold header called "Population Basic Demographics"?

A. I do.

Q. Okay. And the first row underneath is "Race,

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total population." Do you see that?

A. Yes.

Q. Okay. And the imputation rates there -- I'm sorry -- the allocation rates there range from 1.4 percent in 2021 all the way to 1.7 percent in 2019; is that right?

A. Again, there's a value that's outside the range that you just described. You said the range was from 1.4 to 1.7, but --

Q. It's 1.2 in 2020; is that right?

A. Yes. I think so.

Q. Then down close to the bottom quarter of the page, do you see another bolded row that says "Population: Origin and Language"?

A. I do.

Q. And do you see the second row under that header is "Citizenship, total population"?

A. I do.

Q. Okay. Do you see that the allocation rate for 2022 was 9.8 percent?

A. Yes.

Q. Okay. It was 10.1 percent in 2021?

A. Yes.

Q. And it was 9.4 percent in 2020?

A. Yes.

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Q. And it was 7.4 percent in 2019; is that right?

A. Yes.

Q. Okay. And the "Year of naturalization" and "Year of entry" questions in the rows below, those are fairly high allocation rates in the grand scheme of things? It's over a quarter of -- or approximately a quarter of the responses; is that right?

MS. THEODORE: Objection to form.

THE WITNESS: To say "high" implies a comparison, and I'm not sure what it's being compared to --

BY MS. RIGGINS:

Q. Sure.

A. -- but they are in the neighborhood of 25 percent for year of naturalization, and a little lower than that for year of entry.

BY MS. RIGGINS:

Q. Okay. I think that -- actually, let's look at the very -- next-to-last page, and I almost said very last, but next-to-last page of this exhibit.

There's an endnote labeled 3 here on page 7.

A. I see it.

Q. Okay. And it says "The effects of the pandemic on ACS activities in 2020 impacted the

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allocation rates"; is that right?

A. It does say that.

Q. Okay. Are you aware that low sample size and low response rates caused other issues with the 2020 ACS data?

MS. THEODORE: Objection to form.

THE WITNESS: I am aware that the conditions in 2020 disrupted the data collection from the ACS, and I believe that had multiple impacts.

BY MS. RIGGINS:

Q. And we looked earlier at the households that were surveyed, and it was lower for the year 2020; isn't that right?

A. Yes.

Q. And the response rate was also lower than, say, 2022 for the year 2020; is that right?

A. 2020 response rates were indeed lower than 2022 response rates.

Q. Are you aware that this created data quality issues with the ACS 2020 data?

MS. THEODORE: Objection to form.

THE WITNESS: Data quality issues. I'm aware that the Census Bureau has presented information saying that the data that was collected and the data that they generated did not meet the same standards as previous

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1 years.
2   (Exhibit 9 Marked for Identification.)
3 BY MS. RIGGINS:
4   Q. I would like to transmit through the chat and
5 mark as Exhibit 9 a Census Bureau press release,
6 please. Let me know when you've got it.
7   A. Okay. I have it. I'm opening it up.
8   Q. Okay. Have you ever seen this document
9 before -- or it's a printout of the web page. Have you
10 ever seen the web page itself before?
11   A. I have seen a page -- I have memories of
12 seeing a page like this. I'm not sure if it was this
13 particular press release, but yes, about the decision
14 not to release the one-year estimates.
15   Q. Okay. And this was released on July 29,
16 2021; is that right?
17   A. It appears to be, yes.
18   Q. In the first sentence of the second paragraph
19 here, it says "The standard 2020 ACS one-year estimates
20 do not meet the Census Bureau's statistical data
21 quality standards."
22   Do you see that?
23   A. Yes.
24   Q. Okay. And then on the next page -- and it's
25 hard to tell because of the way this is formatted.

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1 There's not a lot of paragraph indentions.
2   I think this is the first full paragraph on
3 the second page. Do you see the second sentence that
4 says "As a result, the ACS collected only two-thirds of
5 the responses it usually collects in a survey year" for
6 2020?
7   A. I see that sentence.
8   Q. Okay. Do you have any reason to doubt that
9 the ACS only collected two-thirds of the responses it
10 usually collected for the survey year 2020?
11   A. I don't have a reason to challenge what's
12 reported here, this sentence that you pointed out.
13   Q. And the second part of that sentence reads
14 "And the people who did respond to the survey had
15 significantly different social, economic, and housing
16 characteristics from those who did not."
17   And then it says "This is called 'nonresponse
18 bias.'"
19   Do you see that?
20   A. Mm-hmm.
21   Q. Do you have any reason to doubt these
22 conclusions by the Census?
23   A. I think it's interesting wording. "People
24 who did respond had significantly...social, economic
25 and housing characteristics from those who did not."

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1   Your question was do I have any reason to
2 challenge that assertion?
3   Q. It's the conclusions reached by the Census
4 here?
5   A. Yeah. I don't have a reason to challenge
6 that conclusion.
7   Q. And then not the next paragraph, but the
8 paragraph after that that starts "The Census Bureau is
9 committed to providing," do you see that?
10   A. Yes.
11   Q. And in this paragraph, does it quote Census
12 Bureau Acting Director Ron Jarmin as saying that "The
13 one-year estimates for the '20 ACS don't meet our
14 standards, so we can't release them"?
15   A. The 2020 ACS. I see that.
16   Q. Okay. So let's go to the last page of this
17 exhibit, please.
18   A. Okay.
19   Q. And it says the "2016 to 2020 ACS five-year
20 Estimates." There's a bold header there. Do you see
21 that?
22   A. Yes.
23   Q. All right. And it says that "The Census
24 Bureau is still reviewing the quality of the 2016 to
25 2020 ACS five-year estimates against our statistical

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1 quality standards and tentatively plans to release them
2 in December. More details to be announced this fall."
3   Did I read that correctly?
4   A. I think so.
5   Q. And you used the 2016 to 2020 ACS five-year
6 estimates in your May report; is that right?
7   A. That's right.
8   Q. Okay. So the Census did, in fact, release
9 them?
10   A. I'm sorry?
11   MS. RIGGINS: Can we go off the record for a
12 minute.
13   (Technical interruption.)
14   (Discussion off the record.)
15 BY MS. RIGGINS:
16   Q. All right. I would like -- well, let me ask
17 you this: Mr. Esselstyn, are you aware if when the ACS
18 released the 2016 to 2020 five-year estimates if it
19 came with any warnings from the Census?
20   A. I do believe it came with statements that
21 indicated that there had been these issues in 2020 like
22 we've been looking at. I remember seeing a document
23 talking about that, or rather --
24   Q. I'm going -- go ahead.
25   A. I said a document. I think it was a web page

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probably.

(Exhibit 10 Marked for Identification.)

BY MS. RIGGINS:

Q. Okay. I'd like to transmit through the chat a PDF printout of one of the Census's web pages, and I will mark this as Exhibit 10. Thank you.

Let me know, Mr. Esselstyn, when you've got this up.

A. I am looking at this document.

Q. And it's called -- or at least the bold text at the top is "Increased Margins of Error in the five-year Estimates containing Data Collected in 2020"; is that right?

A. Yes.

Q. I'll tell you what. I'll give you a minute -- it's a pretty short little article. I'll give you a minute to read this, and then I'm going to ask you if you've ever seen it before.

A. I believe I have seen this before, yes.

Q. Okay. On the bottom of the first page, the last full sentence, do you see that it says "For each estimate, the median census tract-level CV is calculated and compared to the benchmark of 0.30"?

Do you see that?

A. I do.

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Q. Do you know what "CV" stands for in this instance?

A. I believe it's the coefficient of variation.

Q. And is that usually reported as a decimal or a percentage?

A. I think a decimal.

Q. Okay. But .3 is 30 percent; is that right?

A. The coefficient of variation, I'm not -- sitting here right now, I don't know that it's appropriate to also say that that's a percentage.

(Exhibit 11 Marked for Identification.)

MS. RIGGINS: Jordan, can you transmit the glossary definitions for the ACS through the chat.

BY MS. RIGGINS:

Q. And we can go to page 2 whenever you have this up, Mr. Esselstyn.

A. Okay. I have it up.

Q. Do you see on page 2 it defines "Coefficient of Variation (CV)," in parentheses?

A. I do.

Q. And CVs are usually expressed in terms of percentages; is that right?

A. That's what this says.

Q. Okay. And then I would like to mark this as Exhibit 11 for the record.

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Going back to Exhibit 10, so it says "For each estimate, the median census tract-level CV is calculated and compared to the benchmark of .30."

So is that 30 percent?

A. A decimal value of .30 corresponds to 30 percent.

Q. So the answer to my question is yes?

A. I believe so, yes.

Q. Turning to page 2 of Exhibit 10, the first sentence of the first full paragraph says "In a typical year, 12 to 13 of the 17 key estimates passed the threshold and the quality standard is met"; is that right?

A. Yes.

Q. Okay. So do you know what 12 divided by 17 is roughly?

A. Roughly 70 percent.

Q. Yeah. And that makes sense, because if the threshold that we just talked about on the previous page was 30 percent, the mirror would be 70 percent; is that right?

A. I'm not sure I agree that 12 out of 17 percentage is -- you said the mirror of the 30 percent?

Q. Right. So let me ask it this way: So "In a

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typical year, 12 to 13 of the 17 key estimates," that's about 70 percent.

So could you put this sentence another way to say "In a typical year, approximately 70 percent of the 17 key estimates passed the threshold and the quality standard is met"?

A. Well, 13 out of 17 is significantly higher, but approximately, I mean, something in the 70 to 75 percent range.

Q. Okay. Perfect. Then the next sentence, "However, in 2020, the ACS faced numerous data collection challenges as the result of the 2020 COVID-19 pandemic"; is that right?

A. That's part of the sentence, yes.

Q. So then it goes on to reference a blog post; is that right?

A. Yes.

Q. All right. And then going down towards the end of this paragraph, do you see it says "This reduced the number of interviews in the 2020 portion of the 2016 to 2020 five-year estimates caused an increase in the CVs by approximately 15 to 20 percent in relative terms."

A. I see that.

Q. Okay. And then the next sentence, "We would

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48 (Pages 189 to 192)

1 expect to see similar relative increases in the	1 right?
2 published margins of error as well"?	2 A. I see that sentence, yes.
3 A. I see that.	3 Q. Okay. Did you take the ACS's encouragement
4 Q. Okay. And then they go on to conclude that	4 to use caution when using the 2016 to 2020 ACS
5 because of those, "As a result, 18" -- or I'm sorry --	5 five-year data?
6 "8 of the 17 key estimates passed the threshold"; is	6 MS. THEODORE: Objection to form.
7 that right?	7 THE WITNESS: I would say that I was
8 (Technical interruption.)	8 generally aware of these quality issues with the ACS
9 (Off the record 3:28 p.m. to 3:39 p.m.)	9 five-year estimates and that they did not meet the
10 BY MS. RIGGINS:	10 standards of previous five-year estimates.
11 Q. Back on the record. We've had a technical	11 BY MS. RIGGINS:
12 glitch. I'm going to repeat a couple of my questions,	12 Q. Did you note that anywhere in your
13 Mr. Esselstyn, just to make sure the record is clear.	13 May 2021 -- 2024 or August 2024 reports?
14 A. I understand.	14 A. The difference that the -- what I just said
15 Q. Okay. So we're looking at the second page of	15 about how the five-year estimates including 2020 data
16 Exhibit 10.	16 did not meet the standard of previous five-year
17 In the second full paragraph where it says	17 estimates, that's what you're asking if I mentioned in
18 "As a result, only 8 of the 17 key estimates passed the	18 my reports?
19 threshold, with 9 of the 17 estimates having a median	19 Q. Yes.
20 tract-level CV that exceeded .3," or 30 percent; is	20 A. I don't think so.
21 that right?	21 Q. Okay. Because -- and you kind of got at my
22 A. That's what it says.	22 next couple of questions.
23 Q. Okay. And then the article goes on to note	23 The very last paragraph in this article
24 that "Most of these 'new' estimates that have failed	24 says -- just a single sentence, "We anticipate similar
25 previously had failed in the range of .25 to .30," but	25 impacts the margins of error in future five-year
193	195

1 this year the range was .30 to .35; is that right?	1 products that contain the 2020 data."
2 A. I think you put the word "failed" in a place	2 Do you see that?
3 that the sentence that I'm reading does not. So --	3 A. I see that.
4 Q. "The 'new' estimates that failed previously	4 Q. Okay. And so the 2018 to 2022 five-year
5 had a CV in the range of .25 to .30 and this year fell	5 estimates contain 2020 data; is that right?
6 in the range of .30 to .35"?	6 A. Yes.
7 Do you see that?	7 Q. Okay. And both the 2016 to the 2022 -- both
8 A. I see that, yes.	8 the 2016 to 2020 and the 2018 to 2022 datasets also
9 Q. Okay. And so 9 of the 17 estimates failed in	9 contain 2021 data where we looked at the allocation
10 2020; is that right?	10 rates earlier; is that right?
11 A. Nine did not meet that threshold.	11 MS. THEODORE: Objection to form.
12 Q. And as a result -- and I'm looking at the	12 THE WITNESS: I don't agree with that
13 last sentence of this paragraph -- "The 2016 to 2020	13 statement.
14 ACS five-year data fails the quality standard	14 BY MS. RIGGINS:
15 requirement based on this criterion"; is that right?	15 Q. So the -- I'm sorry. So the 2020 -- the
16 A. I see that sentence.	16 2018 to 2022 data includes 2021 data; is that right?
17 Q. Okay. And then in the next paragraph, it	17 A. Yes.
18 states that they're going to continue to publish the	18 Q. And we looked at allocation rates for the
19 data under the waiver process; is that right?	19 years 2019 through 2022 earlier; is that right?
20 A. That's part of the sentence.	20 A. Yes.
21 Q. Okay. And then in the very last sentence of	21 Q. Okay.
22 this paragraph, it says "While users are always	22 A. Well, those were among the years we looked
23 encouraged to make use of the margins of error in their	23 at.
24 decision making, we further stress to use caution when	24 Q. Okay. Did you take into account in any way
25 using estimates with high margin of error"; is that	25 the allocation rates for 2021 data in your report?
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49 (Pages 193 to 196)

MS. THEODORE: Objection to form.

THE WITNESS: Did I take into account the allocation rates from 2021 in my report?

I -- I would -- I don't think that I can respond affirmatively to that question as you phrased it.

BY MS. RIGGINS:

Q. 2018, 2019, and 2020 data are present in both the 2016 to '20 five-year estimates and the 2018 to 2022 five-year estimates; is that right?

A. I'm sorry. Could you repeat that.

Q. Data for the years 2018, 2019, and 2020 are present in both the 2016 to 2020 five-year survey and the 2018 to 2022 five-year survey; is that right?

A. I think so, yes.

Q. Okay. And you were aware at the time you authored your original report in this case in May that there were data quality issues with the 2016 through 2020 five-year estimates; is that right?

A. So my original report in this case was not the May report, but I was aware at the time I authored the May report that there had been these issues that I've discussed in previous answers.

Q. And you were also aware in November of 2023, weren't you, Mr. Esselstyn, that this data contained --

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or that this data did not meet the standard -- the data quality standards of the Census; is that right?

MS. THEODORE: Objection to form.

THE WITNESS: I would word it the way that I had worded in previous responses, that the data did not meet the same standards as -- for these particular datasets as previous five-year surveys.

BY MS. RIGGINS:

Q. Let's go back to page 2. I asked you about this sentence earlier in the center of the page.

"Thus, the 2016 to 2020 ACS five-year data fails the quality standard requirement based on this criterion." Is it your understanding that the five-year ACS surveys for 2016 through 2020 fails the data quality standard from the Census?

MS. THEODORE: Objection to form.

THE WITNESS: This -- this standard based on this criterion is what's being described in this sentence. So that's -- to me, it's specifying a certain standard and a certain threshold, but it goes on to talk about the -- that they feel it's an important source of data.

And I would note that, as has been mentioned before, the CVAP data from the census data is the go-to dataset for CVAP analysis, so this -- this is still

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considered the best option that's available.

BY MS. RIGGINS:

Q. So it's still considered the best option available even with high margins of error?

MS. THEODORE: Objection to form.

THE WITNESS: I don't agree with the way you characterized it.

BY MS. RIGGINS:

Q. Okay. So the Census characterized this data as having high margins of error in this article.

MS. THEODORE: Objection to form.

THE WITNESS: High relative to some -- well, it indicates -- let me -- I would say higher margins of error, but saying "high," I don't think that's consistent with my understanding.

BY MS. RIGGINS:

Q. Sure. But this article doesn't say there are "higher margins of error." It says there are "high margins of error" with this data?

MS. THEODORE: Objection to form.

THE WITNESS: At the end, it says "We further stress to use caution when using estimates with high margins of error."

BY MS. RIGGINS:

Q. Yes.

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A. I don't read that sentence as necessarily saying -- the margin of error depends on the level of geography, for example, so they're -- again, I don't agree with the way you've characterized it in the question you asked.

Q. Okay. But you're aware that the Census publicly stated the 2022 data failed to meet Census data quality standards?

MS. THEODORE: Objection to form.

THE WITNESS: The 2022 data?

BY MS. RIGGINS:

Q. Yes -- I'm sorry. The 2020 data. We looked at this article earlier. It has the director publicly stated that it failed to meet Census data quality standards?

A. It says "It fails the quality standard requirement based on this criterion."

Q. And the Census noted that there would be "Similar impacts to the margin of error in future five-year products containing 2020 data"; is that right?

A. It says they anticipated that.

Q. Yes. And the 2018 to 2020 data -- 2022 data contains 2020 data; right?

A. Yes.

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1   Q. Okay. Did you use any caution when using
2 this data?
3   MS. THEODORE: Objection to form.
4   THE WITNESS: I'd like to think that I am
5 always using caution when I'm doing analysis with data.
6 I'm not a reckless analyst. I strive to be careful and
7 use the data that provides the best -- the most
8 reliable results that I can.
9 BY MS. RIGGINS:
10   Q. And you didn't think it was important for the
11 Court to know that the Census had found the 2020 data
12 to have quality concerns?
13   MS. THEODORE: Objection to form.
14   THE WITNESS: I think I did not include
15 mention of the 2020 challenges in my report, I don't
16 believe. I know, as with so many aspects of society in
17 2020 and during the peak COVID disruption, it was
18 widely reported that the Census Bureau was facing
19 challenges, so I did not include mention of it in my
20 report -- either report.
21 BY MS. RIGGINS:
22   Q. Did you do any robustness checks or anything
23 else on your datasets including 2020 ACS data?
24   A. As I have mentioned multiple times, I
25 corroborated the results that I was getting using two

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1 pieces of software.
2   And as I have said, I used the -- what's
3 considered the best option available for citizen voting
4 age population data broken down by race and age and
5 what I consider and others consider to be the best
6 option for the disaggregated data, so I think I was
7 using -- proceeding with data quality in mind.
8   Q. You think that proceeding with data quality
9 in mind includes using data that the source has warned
10 has data quality issues, and not including a
11 disclaimer?
12   MS. THEODORE: Objection --
13 BY MS. RIGGINS:
14   Q. I just want to be clear that that's your
15 testimony, Mr. Esselstyn.
16   MS. THEODORE: Objection to form.
17   THE WITNESS: Could you repeat the question,
18 please.
19 BY MS. RIGGINS:
20   Q. Is it your testimony today, Mr. Esselstyn,
21 that you knowingly included 2020 ACS data with data
22 quality issues without a disclaimer in your report?
23   MS. THEODORE: Objection to form.
24   THE WITNESS: It is my testimony that I feel
25 I was using the best data available both for the

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1 primary source as well as the disaggregated data, and
2 if there's no better alternative -- well, that I was
3 using the most appropriate and highest quality option
4 that I felt was available to me.
5 BY MS. RIGGINS:
6   Q. Could you have used one-year ACS estimates
7 for 2021?
8   A. I don't think -- I don't think so.
9   Q. Why not?
10   A. I don't believe they're available at the
11 block group level, and I am fairly certain that there
12 are no disaggregated datasets based on those one-year
13 data. I'm, as I say, fairly certain. Maybe some
14 source is generating them, but I don't think the RDH
15 does.
16   Q. Could you have disaggregated one-year data
17 down to the block level yourself?
18   A. As I said, I don't think it's available at
19 the block group level, so it would mean -- I think I
20 could have done so, but I don't think it would be a
21 recommended practice.
22   Q. Okay. I'd like to turn back to what I think
23 is Exhibit 2, which is your rebuttal.
24   A. Got it.
25   Q. Look at paragraph 31, please.

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1   A. Can you give me a page number.
2   Q. Page 16.
3   A. Yes. I'm there.
4   Q. Okay. And in paragraph 31 on page 16, you
5 criticize Dr. Trende for reporting the 90 percent error
6 margin estimate as plus or minus 315 citizens, and
7 instead, that the true margin of error for the total
8 CVAP population is plus or minus 13 -- 313; is that
9 right?
10   A. Yes.
11   Q. And is that 313 citizens?
12   A. Yes.
13   Q. Do some of your demonstrative districts split
14 block groups, Mr. Esselstyn?
15   A. I'm sorry. I know I -- this has been a
16 problem before. I -- going back to your previous
17 question, again, I apologize. But you asked if that
18 number, 313, was citizens, but I believe since it's
19 citizen voting age population, it would be adult
20 citizens, yes.
21   Q. Citizens of 18 -- citizens of voting age; is
22 that right?
23   A. Correct.
24   Q. I apologize. I should have caught that.
25 Thank you for the clarification.

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1   All right. Do any of your demonstrative
2 districts flip block groups, Mr. Esselstyn?
3   A. Yes.
4   Q. Okay. Which demonstrative districts would
5 those be?
6   A. Demonstrative -- I'm going to focus on
7 primary demonstrative districts.
8   Q. Yes, please. I should have limited my
9 question.
10   A. B, C, D, and E.
11   Q. Is that all the primary demonstrative
12 districts except for A?
13   A. Yes.
14   Q. So how do you allocate the population among a
15 split block group?
16   A. So the population, the total population is --
17 it's not really an allocation. You use the population
18 number that's reported for that census block in the
19 decennial census.
20   Q. Okay. How do you allocate citizen voting age
21 population amongst split block groups?
22   A. You say how do I allocate? My process
23 involved using the disaggregated block level data, so
24 that allocation had already been done in the data that
25 I was using.

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1   Q. Okay. And can you explain to me based on
2 your understanding how Redistricting Data Hub
3 disaggregated the citizen voting age population from
4 the block group reported by the ACS to the block?
5   A. They counted.
6   Q. Can you please explain it.
7   A. Yes, I will, sort of a high-level
8 explanation. There are a number of steps, but at -- if
9 my high-level explanation isn't sufficient, I trust
10 you'll ask me to go into more detail.
11   Essentially, the process of allocation is
12 done by looking at the block group populations, both
13 the stated citizen voting age population for the block
14 group and the combined black citizen voting age
15 population for the block group. And then using the
16 proportion of the block group's population that is in
17 each block based on the decennial census -- in other
18 words, looking at the voting age population reported
19 for each block and the specified black voting age
20 population -- there's a specific characterization of
21 the black voting age population for each block that's
22 used.
23   Those numbers taken as a -- again, as a
24 proportion of the total numbers for those figures for
25 the block group are -- that proportion is applied to

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1 the numbers for the entire block group, and that's how
2 the total CVAP and the black CVAP numbers get allocated
3 to blocks.
4   Q. Okay. Is this taking into account that there
5 might be a disproportional share of the black voting
6 age population across the block group?
7   A. I don't understand your question.
8   Q. Sure. So in a given block group, would you
9 agree with me that it's possible that a large
10 proportion of the black voting age population might
11 live in one block versus another block of the block
12 group?
13   A. Yes.
14   Q. Okay. So how does the methodology that you
15 described in the question before last take into account
16 the disproportional black voting age population in the
17 different census blocks?
18   A. I don't know that I agree with the term
19 "disproportionate," but as I tried to explain earlier,
20 if you're looking at the proportion of a -- the block
21 groups, the black voting age population that resides in
22 that block -- let's say that 40 percent of the black
23 voting age population, again, using the appropriate
24 characterization of black voting age people.
25   If 40 percent of the black voting age

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1 population of the block group is in that block, then
2 40 percent of the citizen -- black citizen voting age
3 population would be allocated to that block.
4   Q. And so you know the percentage of black
5 voting age population down to the census block because
6 the Census Bureau reports it in the decennial census --
7 is that right? -- so you can cross-reference?
8   A. Correct.
9   Q. So you need the 2020 decennial census data in
10 order to do the disaggregation of the ACS data down to
11 the census block level; is that right?
12   A. Certainly, using the method I described, yes.
13   Q. Can we look at page 23, paragraph 46.
14   A. I'm there.
15   Q. Okay. So here in paragraph 46 in Figure 3,
16 you've pointed out something called the Fishing Creek
17 VTD in Warren County; is that right?
18   A. That's right.
19   Q. Okay. And you comment "The majority of
20 population identifies as Native American"; is that
21 right?
22   A. That's right.
23   Q. Okay. One of your goals, Mr. Esselstyn, was
24 to draw districts that were either majority black
25 voting age population or majority black citizen voting

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52 (Pages 205 to 208)

age population.

So why does the fact that this one VTD is majority Native American, how was that relevant in a Section 2 case?

A. Sure. So the discussion shown here on page 23 is part of my report where I am indicating that I think the -- I'm glad you mentioned this, by the way.

There's a section of this report where essentially I'm saying that Dr. Trende's so-called "dot plot maps" are misrepresenting. They're not using the appropriate comparator.

So by just comparing the black population to the white population, it is misleading the person looking at these maps as far as understanding the composition of the district.

So in this case, this voting district, this VTD based on the map here presented by Dr. Trende appears to have a majority black population. One looking at this map would -- the implication is -- let me put it this way.

By using white voting age persons as the comparator rather than persons that don't identify as black as the comparator, this is an example of an area of the map where the impression is given that it is a black majority VTD when, in fact, it is not a black

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majority VTD.

Q. That's the impression you got about this VTD; is that right?

A. As soon as I saw that these -- the answer's no.

Q. Okay. Are you aware that the U.S. Supreme Court has endorsed this use for shapes for black voting age population and shapes for white voting age population in previous redistricting cases?

MS. THEODORE: Objection. Objection. Calls for a legal conclusion.

MS. RIGGINS: It doesn't call for a legal conclusion. I'm asking if he's aware of something.

MS. THEODORE: Okay. I'll also object to form.

THE WITNESS: I am not aware of such an endorsement.

BY MS. RIGGINS:

Q. Okay. So you're not aware that the U.S. Supreme Court credited a nearly identical analysis done in a redistricting case last decade?

MS. THEODORE: Objection to form.

THE WITNESS: I am not aware of what you describe.

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BY MS. RIGGINS:

Q. Okay. Let's turn the page and talk about your criticisms of Dr. Trende in paragraph 50, please.

So in this paragraph, you criticize Dr. Trende to use an X for a white voter, a circle for a black -- I'm sorry -- for a white -- for white voting age population and a blue circle for black voting age population, and the relative area that these shapes take up; is that right?

A. That is one -- yes. That is the main argument in this paragraph.

Q. Okay. And you go on to criticize the transparency and the fill of the symbols in paragraph 51 bullet below that; is that right?

A. Among other things, yes.

Q. Okay. Would you agree that you can color in a circle, like a shape, color it in?

A. Sure.

Q. Okay. How do you color inside an X?

A. I think Figure 4 is maybe a good visual answer to your question. If the X is not just composed of, you know, fine dark lines, there aren't lines to color within.

If it were just a pure X, you know, of two intersecting straight lines, I could see how there

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wouldn't be space to color in, but on the left-hand side of Figure 4, you can clearly see that there is -- the X has width into which color can be placed.

Q. And that's because the stroke value was widened so you could see it better; is that right?

A. I believe that's just one -- that the stroke further makes the X -- the X would already be larger than the dot regardless of the stroke value, I believe.

Q. Okay. And you criticize the different levels in opaqueness between the dots and the Xs in paragraph 51; is that right?

A. I do.

Q. Okay. Did you create a map with identical levels of size and transparency to fix all of the issues that you allege were present in Dr. Trende's dot plots?

A. It would take me some time to answer your specific question on all of the issues I mentioned about the dot plots. I believe that the dot density map that I created addresses most, if not all. If you like, I can go item by item and make sure I agree with the statement of "all," but I feel comfortable saying most, if not all.

Q. So let's go to the figure you were just talking about, Figure 5 on page 27.

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53 (Pages 209 to 212)

1   A. I'm there.
2   Q. So here, are your blue and orange dots of
3   identical size?
4   A. Yes.
5   Q. Do they share the same level of opaqueness?
6   A. Yes.
7   Q. Are they -- do they have the same fill and
8   stroke values?
9   A. They're -- yes. I will say yes.
10   Q. And so let's just look at your dot density
11   map. It looks like the largest concentration of blue
12   dots within this portion of Demonstration District C
13   that you're showing here is in -- I believe this is
14   Henderson; is that right?
15   A. In the Henderson area.
16   Q. Sure. The greater Henderson area?
17   A. Yeah.
18   Q. Okay. And then there are more isolated blue
19   dots as you get up, you know, closer to the edge of
20   Demonstration District C towards the Virginia border
21   and Lake Gaston; is that right?
22   A. I think generally I agree with your
23   statement. I -- yes. I'm not confident from memory
24   that that lake is Lake Gaston, but I will -- if you are
25   representing that it is, then I agree.

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1   Q. I think it's Lake Gaston or one of the
2   tributaries to Lake Gaston.
3   A. As I said, I'm not remembering at this
4   moment, but there are more isolated, less densely
5   concentrated dots in that area.
6   Q. So let me ask you this, Mr. Esselstyn: If
7   someone who was color blind was looking at your map,
8   could they tell the difference between the black and
9   the white populations represented by these dots?
10   A. So there are two pieces to that, and I make
11   this clear in my report, that I actually didn't use the
12   black and white characterization.
13   You can see in the legend and it's also
14   clarified elsewhere in the report that the orange dots
15   are indicating no part black, which I believe is the
16   more appropriate comparator to be using in this kind of
17   map.
18   So shall I answer your question about color
19   blindness having made that, or do you want to repeat
20   the question?
21   Q. Sure. The colors of the dots, could someone
22   who's color blind tell the difference showing what this
23   map is, you know, the showing with the two different
24   colors?
25   A. I would say, from what I've seen, 99-plus

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1   percent of color blind people can distinguish between
2   orange and blue.
3   It's considered one of the best, if you're
4   using a two-color combination, then orange and blue,
5   yes. Ninety-nine-plus percent of color blind people
6   should be able to distinguish those colors.
7   Q. What if someone printed this in black and
8   white?
9   MS. THEODORE: Objection to form.
10   BY MS. RIGGINS:
11   Q. Would they be able to distinguish between the
12   two colored dots?
13   A. I don't know.
14   Q. Would it be more difficult than if it was a
15   different shape, if one symbol was like a triangle and
16   one was a circle?
17   A. I wouldn't -- it depends on how the map is
18   made, honestly. I think I mention in a footnote that
19   were that a concern in 2024 that somebody reproducing a
20   color exhibit in black and white, then using different
21   shapes, I would recommend use the same shape and
22   rotating it.
23   Q. You report compactness scores for all your
24   demonstration districts; is that right?
25   A. Yes.

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1   Q. And you also reported compactness scores for
2   the 2022 and 2023 enacted plans; is that right?
3   A. For the districts that were analogous or
4   districts that I was showing statistics for some other
5   reason, yes.
6   Q. Did you make any attempt to measure the
7   compactness of the minority population specifically
8   within your demonstrative districts?
9   MS. THEODORE: Objection to form.
10   THE WITNESS: If I'm understanding your
11   question correctly, I think the answer is no.
12   BY MS. RIGGINS:
13   Q. Do you understand, Mr. Esselstyn, that there
14   are peer-reviewed methods for how to measure population
15   compactness?
16   A. I believe that's an accurate statement.
17   Q. Did you employ any of those peer-reviewed
18   methods to measure the compactness of any population
19   within any of your demonstrative districts?
20   A. Other than the compactness scores that we've
21   talked about previously, I did not calculate
22   compactness metrics.
23   Q. You only computed compactness metrics for the
24   districts themselves; is that right?
25   A. Yes.

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54 (Pages 213 to 216)

Q.   Let's look back at page 7, please, of your
rebuttal report, your August report.
A.   I'm there.
Q.   The 2022 black CVAP of District C was
reported as 51.24 percent; is that right?
A.   That's right.
Q.   And I know there's been a lot of dispute in
various expert reports about margins of error.
     Sitting here today, do you know what the
margin of error is on this black -- 2022 black CVAP
calculation for the entire Demonstrative District C?
A.   I think the answer to that is no.
Q.   And is that because margin of error is
calculated at either the block or the block group
level?
A.   I would not give that as an explanation for
why I answered no.
Q.   Okay. Sitting here today, do you know what
the margin of error is for the 2022 black CVAP for
Demonstration District D?
A.   I know that a margin of error has been
calculated by Dr. Collingwood for Demonstration
District D, and I -- so I know that there is the margin
of error that he calculated for Demonstration
District D.

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Q.   And do you know if that's for the block
groups within the district or the entire district?
A.   It is based on the block groups as well as
the counties.
Q.   Sitting here today, do you know what the
margin of error is for Demonstration District A for the
2022 black CVAP calculations?
A.   Listening to you ask that question makes me
realize that your question is asking about "the margin
of error calculation" or "the margin of error figure."
There is not necessarily just one, so I want to -- I
should have mentioned that in replying to your previous
questions about margins of error.
     And then as for your question about
Demonstration District A, I am not aware of a margin of
error for the black CVAP percentage reported for
Demonstration District A.
Q.   Okay. Are you aware of any -- sitting here
today of any margin of error for the 2022 black CVAP of
Demonstrative District E?
A.   Yes.
Q.   And what is that?
A.   It is stated in Dr. Collingwood's record, and
I don't want to rely on my memory because I'm not
confident that I would get it exactly right, but --

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Q.   So you'd like to rely on Dr. Collingwood and
his report for that calculation; is that fair to say?
A.   Yes. And I believe he provides two margins
of error.
     MS. RIGGINS: Let's take a five-minute break.
I might be done.
     (Off the record 4:28 p.m. to 4:41 p.m.)
BY MS. RIGGINS:
Q.   Mr. Esselstyn, can you please look at your
May report in this case, and I'd like to go to page 15
and look at Figure 7 for just a minute, if we could.
A.   I am there.
     (Exhibit 12 Marked for Identification.)
     MS. RIGGINS: And I'm going to ask Jordan to
transmit what I'd like to mark as Exhibit 12 through
the chat.
     MS. THEODORE: I'm sorry. Can you just
repeat what page you asked him to look at.
     MS. RIGGINS: Page 15. I'm looking at
Figure 7, which is the map of Demonstrative District A.
     MS. THEODORE: Of the rebuttal or of the
original?
     MS. RIGGINS: The May report.
     MS. THEODORE: The May report. Okay. Thank
you.

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     MS. RIGGINS: All right. Jordan, you can go
ahead and send it through the chat.
BY MS. RIGGINS:
Q.   I will represent to you, Mr. Esselstyn, that
this is a PDF pulled down from the general assembly's
redistricting website of the 2023 Senate Plan.
     Can you let me know when you have it up.
A.   I have it up.
Q.   And do you see that there is a legend on this
map?
A.   Yes.
Q.   Okay. And the county groupings are in -- are
bordered in dark blue. Do you see that?
A.   I do.
Q.   Okay. And the counties have black borders?
A.   I do. Yeah, I see that.
Q.   And then the districts themselves are shaded
different colors. Do you see that?
A.   Yes. That's not made explicit in the legend,
but I see how it's represented in the map.
Q.   And Senate District 1 is the northeasternmost
district in the state; is that right?
A.   In this map, yes.
Q.   In this map, yes. All right. The entire
district that's tan colored is bordered in a blue

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55 (Pages 217 to 220)

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county grouping border; is that right?

A. That's right.

Q. And then Senate District 2 is depicted in a light green color below and to the west of Senate District 1; is that right?

A. Yes.

Q. And that also is bordered by a blue county grouping boundary; is that right?

A. That's right.

Q. Okay. And then District 11 is shaded in pink on this map. Do you see that?

A. Yes.

Q. And it too is also bordered in its entirety by a blue county grouping distinction; is that right?

A. Yes.

Q. Okay. And Senate District 11 contains Vance County; is that right?

A. Yes.

Q. So let's compare this map in front of you that's Exhibit 12 to Figure 7 of Exhibit 1, which is your map of Demonstrative A.

A. Okay. I'm going to bring that up in paper just --

Q. Sure. Yeah.

A. I could do it on the screen, but I think this

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will be faster.

Okay. I'm looking at Figure 7 on paper.

Q. And so demonstration district as drawn goes across three different county groupings in the 2023 enacted plan; is that right?

A. Yes.

MS. RIGGINS: I have no further questions at this time. I may have some more questions depending on what your counsel asks.

I will say while we are on the record, Elisabeth, we would like copies of Mr. Esselstyn's backup for the full maps that he was looking at that he referenced earlier and the Shake-Files for the full statewide plans. We think that we're entitled to those under Rule 26.

We also think that we are entitled to any BEQ, BAF, any kind of files that were ever exported from Dave's Redistricting into QGIS or into Maptitude.

It's pretty clear that those were concept maps or concepts that were being drawn and used in the drawing of the final plans, and we'd like to request those.

We can certainly follow up in writing about that, but we are going to reserve the right to hold this deposition open until we -- until and if we get

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those materials, seek intervention from the Court if we do not. And even if we do, once we've seen them, potentially seek to reopen discovery into this matter depending on what they were to get.

MS. THEODORE: Okay. I mean, I think, you know, with respect to the sort of question of Shake-Files containing the entirety of the map, I think I'm going to ask a follow-up question that will probably moot that issue.

Like, I'm not sure the basis for your characterization about the Dave's concept plans. I don't think that Mr. Esselstyn testified to that, but, you know, we can address that issue as it arises.

MS. RIGGINS: Well, I will say, Elisabeth, that he testified that he started drawing at least Demonstration A in Dave's, and at one point he mentioned that he was aware that you can export data out of Dave's, the BAQ files, and he was not sure if anything was loaded into Maptitude or QGIS.

So if you are willing to make a representation that those things didn't exist or there's no backup of the initial draws in Dave's, that's fine, I guess, but we'd like that representation if that's the case, if there's no backup data for it. I understand that Dave's is kind of like WhatsApp in

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that respect.

MS. THEODORE: Okay. All right. How much do you have left? Ms. Schramek, if you could tell us what the time is for Alyssa's questioning?

THE COURT REPORTER: If we're stopping right this second, 6:28 plus six minutes.

MS. THEODORE: All right. Why don't we take a quick break so I can prepare my follow-up questions, and maybe like 10 minutes.

Does that work for folks?

(Off the record 4:49 p.m. to 5:05 p.m.)

EXAMINATION

BY MS. THEODORE:

Q. Mr. Esselstyn, you were asked a question about whether your backup data included the incumbent locations that you relied upon.

Do you recall that?

A. Yes.

(Exhibit 13 Marked for Identification.)

BY MS. THEODORE:

Q. All right. I'm going to drop into the chat the folder that contains your backup data if I am allowed to drop a folder. I'm going to drop into the chat a file from your backup data, which I'm going to mark this as Exhibit 13.

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56 (Pages 221 to 224)

1   Does this refresh your recollection that you
2 did provide with your backup data the list of incumbent
3 locations that you relied upon?
4   A. Yes.
5   Q. Great. You provided Shake-Files in your
6 backup data of all the districts that you created for
7 Demonstration Maps A, B, C, D and E; is that right?
8   A. Yes.
9   Q. And you were asked some questions by
10 Ms. Riggins about whether you provided Shake-Files for
11 districts that you did not change, but that would
12 accompany the districts you did change in Demonstration
13 Maps A, B, C, and E; correct?
14   A. I was asked those questions, correct.
15   Q. Okay. And you note in your report that you
16 relied on the representations of the enacted state set
17 of plans on the legislature's website; correct?
18   A. Correct.
19   Q. And that's referring to Shake-Files?
20   A. I believe that I used Shake-Files, yes.
21   Q. And anyone who wanted to know the shapes of
22 the districts you did not change from the 2023 map
23 could use those same Shake-Files from the legislature's
24 website; correct?
25   A. Correct.

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1   Q. Okay. Do you recall ever actually creating
2 and exporting Shake-Files from Maptitude that contained
3 both the districts that you changed in the
4 demonstration districts and the demonstration maps that
5 you drew and the districts that were unchanged from the
6 2023 enacted plan?
7   A. I do not recall doing that.
8   Q. Okay. And you were asked some questions
9 about the county-split data that you presented in your
10 report from Maptitude. Do you recall those questions?
11   A. Yes.
12   Q. Could that data be generated in Maptitude
13 without ever generating Shake-Files that contained both
14 the districts that you changed and the districts that
15 you didn't change?
16   A. Yes.
17   Q. All right. You were asked some questions in
18 the deposition about generating block equivalency files
19 from DRA. Do you recall that?
20   A. Yes.
21   Q. Do you recall generating any block
22 equivalency files in DRA that involved any districts
23 that were differently configured than the districts
24 that you turned over in Shake-File form as part of your
25 backup data?

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1   A. I do not recall doing so.
2   Q. Okay. And the Shake-Files that you turned
3 over can be converted into block equivalency files;
4 correct?
5   A. Yes.
6   Q. And the Shake-Files that you turned over
7 allow anyone to see the shapes of the districts that
8 you present and rely upon in your report -- let me
9 rephrase -- of the districts that you created for
10 purposes of your report?
11   A. That's correct.
12   (Exhibit 14 Marked for Identification.)
13 BY MS. THEODORE:
14   Q. All right. I am going to drop another
15 document into the chat that I'm going to mark as
16 Exhibit 14. Let me know when you have that open.
17   A. I have it open.
18   Q. Okay. You see this is a press release from
19 the Census Bureau dated March 17, 2022, titled "New
20 Statistics Available From the 2016 to 2020 American
21 Community Survey 2020 Estimates"?
22   A. I do.
23   Q. All right. And you see about midway the
24 through the first paragraph, it says "Following
25 pandemic-related data collection disruptions, the

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1 Census Bureau revised its methodology to reduce
2 nonresponse bias and data collected in 2020. After
3 evaluating the effectiveness of this methodology, the
4 Census Bureau that the standard, full suite of 2016 to
5 2020 ACS five-year data are fit for public release,
6 government and business uses."
7   Do you see that?
8   A. Yes.
9   Q. Okay. And then the next paragraph, an ACS
10 official states that "While the COVID-19 pandemic posed
11 significant challenges for the ACS data collection, we
12 have worked tirelessly over the last few months to
13 refine our methodology and reduce the impact of
14 nonresponse bias in the 2016 to 2020 ACS five-year data
15 products."
16   A. I see that, yes.
17   Q. All right. You were asked a number of
18 questions, you recall, about the reliability of the
19 2016 to 2020 five-year ACS estimates; is that right?
20   A. Yes.
21   Q. You've updated all of your black CVAP
22 percentage figures to use the 2018 to 2022 five-year
23 ACS estimates; is that correct?
24   A. That's correct.
25   Q. And those are the numbers -- the numbers from

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57 (Pages 225 to 228)

1   2018 to 2022 five-year tabulation are the numbers that
2   you intend to rely on going forward in this case?
3   A. Yes.
4   Q. Okay. And you were and you are presenting
5   two districts as demonstration districts as majority
6   black districts based on black CVAP percentage alone;
7   is that correct?
8   A. That's correct.
9   Q. And Demonstration Districts D and E are those
10   two districts?
11   A. Correct.
12   Q. All right. And Dr. Collingwood has
13   calculated the margins of error for both of those
14   districts based on margins of error provided by the
15   Census Bureau; is that correct?
16   A. Yes.
17   Q. Okay. And do the margins of error take into
18   account nonresponse rates and other sampling issues?
19   A. My understanding is yes.
20   Q. All right. Finally, I believe you wanted to
21   identify a typo in your report?
22   A. That's true, yes. On page 25, the last
23   footnote, footnote 22, in the last line of that very
24   near the end of the footnote where it says "in Figure 2
25   above," question mark, that should be "Figure 3."

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1   Q. Thanks.
2   A. So that Number 2 should be -- Figure 2 should
3   be Figure 3 in the last line of Footnote 22.
4   MS. THEODORE: Okay. Thank you. Those are
5   my questions.
6   MS. RIGGINS: I just have a couple quick
7   follow-up questions that I think will clarify previous
8   testimony, and the narrow the scope of discovery
9   disagreement, Elisabeth.
10   EXAMINATION
11   BY MS. RIGGINS:
12   You were shown Exhibit 13 by your counsel,
13   Mr. Esselstyn. Is that the document that you received
14   from counsel referenced in your report?
15   A. I believe so.
16   Q. Okay. And did you use Maptitude to make any
17   changes to district lines in any of your demonstrative
18   districts?
19   MS. THEODORE: Object to the form.
20   THE WITNESS: Possibly.
21   BY MS. RIGGINS:
22   Q. So it's possible --
23   A. I'm not certain one way or the other.
24   Q. Okay. So it's possible that after you drew
25   district lines in Dave's Redistricting and imported

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1   that into Maptitude, that further changes were made to
2   the demonstrative districts?
3   A. So there are a couple of pieces of the way
4   you asked that question.
5   In some cases, I think it was actually faster
6   for me to just reselect the geographic units from a
7   district rather than go through the process of
8   exporting and importing. So, for example, District --
9   Demonstration District A is all whole counties, and
10   then testing compactness scores for different options.
11   For example, I might have -- as I mentioned,
12   it's an iterative process, seeing what the compactness
13   score was for one option and then gone back. But I
14   can't say with certainty whether I made changes in
15   Maptitude to a district that I had -- a configuration
16   that I had previously created in DRA that then became
17   the final version provided in the report.
18   Q. Okay. Sitting here today, can you say with
19   absolute certainty that the Shake-Files that were
20   ultimately exported in your backup data from Maptitude
21   are the exact same as the concept maps you were working
22   on in Dave's Redistricting?
23   MS. THEODORE: Objection to form and the
24   question about the concept maps. But go ahead.
25   THE WITNESS: I think the answer is, can I

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1   say that with absolute certainty, the answer would be
2   no, I cannot say that with absolute certainty.
3   The -- I feel quite certain that that
4   wouldn't be the case with the primary demonstration
5   districts. Where I'm less certain is with the adjacent
6   demonstration districts.
7   BY MS. RIGGINS:
8   Q. Did you attempt to save any of the concepts
9   or partial districts that you were working on in Dave's
10   Redistricting in any way?
11   A. I honestly don't recall. Generally my
12   practice was, as we talked about before, you kind of
13   have a working file and make changes to that, and I
14   don't tend to sort of save a snapshot of variations as
15   I go.
16   Q. Okay. And you're aware that Maptitude can
17   save that in the background; right?
18   A. It can be configured to do so, yes.
19   Q. Did you configure your Maptitude to do that?
20   A. To do -- save? To do what?
21   Q. To save the iterations of the line drawing
22   like you were just talking about.
23   A. I think kept it at the default setting, which
24   I believe is to -- I don't think I changed it from the
25   default setting.

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1   Q. And you testified earlier, I believe,
2 Mr. Esselstyn, when you were looking at your
3 demonstration districts in Maptitude, you kept -- they
4 were part of a statewide file; is that right?
5   A. Certainly when I was checking the VTD splits,
6 that was the case.
7   Q. And is it possible to export that statewide
8 file into Maptitude -- out of Maptitude? I'm sorry.
9   A. I believe it would be.
10   Q. Okay. I'd like to look at Exhibit 8, please.
11   A. Can you remind me what the title might be of
12 the file.
13   Q. That is the U.S. Allocation Rate.
14   (Discussion off the record.)
15 BY MS. RIGGINS:
16   Q. Is there 2023 data on this document?
17   A. I just want to make sure I'm looking at the
18 correct -- this is the PDF whose file name is "ACS Item
19 Allocation Rates"?
20   Q. Yes. And when you pull it up, it says "Item
21 Allocations Rates 2019 through 2023 for United States."
22   A. I'm looking at that document.
23   And your question was whether it includes
24 information for 2023?
25   Q. Yes?

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1   A. It appears to, yes.
2   Q. Okay. And you testified earlier about
3 Endnote 3 on this document, which is on the
4 second-to-last page.
5   A. I don't remember expressing an opinion about
6 it, but if you -- if it was one of those things and
7 asked me if you had read it, I --
8   Q. This endnote still talks about the effects of
9 the pandemic on ACS activities in 2020 and the impact
10 on allocation rates; correct?
11   A. That endnote does discuss what you just said,
12 yes.
13   MS. RIGGINS: Okay. We don't have any
14 further questions. We can go off the record.
15   (Off the record 5:23 p.m. to 5:30 p.m.)
16   MS. RIGGINS: I think our standard order,
17 Meredith, with Denise is 14 days. We might need it a
18 little sooner than that. Can we do ten instead?
19   THE COURT REPORTER: Yes, I can do that.
20 And, Ms. Theodore? Ten days for you?
21   MS. THEODORE: I think that's fine.
22   (Signature not reserved.)
23   (Deposition adjourned 5:30 p.m.)
24
25

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59 (Pages 233 to 235)

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